

the

Journal

*of the association for physical
and mental rehabilitation*



SEPTEMBER-OCTOBER 1952

Vol. 6, No. 1



...THEY CAN WALK AGAIN

Torpedoed on the Murmansk run—nearly frozen to death in an open boat—both legs lost below the knee—ex-Merchant Marines Michael McCormick and William Morris walked unaided in three weeks. They could look forward with certainty to leading a normal life again. To these men, as to thousands of other Hanger wearers, the phrase "Hanger is a symbol of help and hope" is a concrete truth proven by every day of their future lives.

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SEPTEMBER-OCTOBER 1952

Volume 6

Number 1

Published Bimonthly
by the Association for
Physical and Mental Rehabilitation

in this issue

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Membership: Active, \$6.00; Associate, \$4.00;
Libraries and Organizations, \$5.00;
Single Copies, \$1.00

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NOTICE TO MEMBERS

The following proposals governing membership control were adopted unanimously at the meeting of the Representative Assembly on July 7, 1952 at the Hotel Schroeder, Milwaukee, Wisconsin. They have been forwarded to the constitution committee and are to be incorporated into the by-laws of the association. They will go into effect October 1.

1. If a member fails to renew and becomes delinquent sixty days after his expiration date, he must pay the penalty of one dollar plus his current dues if he renews within a six-month period.
2. After the six-month period he must re-apply as a new member and satisfy any and all requirements for membership, even if more stringent than at the time he originally became a member. He must also pay the current year's dues plus the penalty of one dollar.
3. If a man decides to leave the field of corrective therapy, he may write a letter to the secretary and resign in good standing for a period of three years. He may be reinstated at any time within that period by making application and paying the current year's dues. After three years he may be reinstated by fulfilling the constitutional requirements for membership at the date of application for reinstatement and by payment of the current year's dues.

SEND ALL NEW APPLICATIONS FOR MEMBERSHIP TO STANLEY H. WERTZ, SEC'Y

HIGHLIGHTS OF THE SIXTH ANNUAL CLINICAL AND SCIENTIFIC CONFERENCE OF THE ASSOCIATION FOR PHYSICAL AND MENTAL REHABILITATION

JOHN E. DAVIS, SC. D.

Chief, Corrective Therapy

Veterans Administration Central Office
Washington, D. C.

The Sixth Annual Clinical and Scientific Conference of The Association For Physical and Mental Rehabilitation held in Milwaukee, Wis. July 7th. through the 12th provided an important innovation in programming medical meetings. In place of the conventional, formal papers, a different type of clinical presentation was introduced consisting of symposia in which leaders and authorities in Physical Medicine, psychiatry, neurology, orthopedics, along with Industry were able to discuss specific aspects of their field with one another and answer practical queries from the audience. In this type of panel and audience discussion, physicians and therapists were able to provide specific information as to rationale and techniques in treatment. Needless to say, the degree of interest in these sessions was unusually high, in the combined medical and industrial attack upon the current problems of rehabilitation. Corrective Therapy as an integral part of the total physical medicine and rehabilitation team benefitted significantly from this opportunity to learn about new techniques of activity therapy and to improve both the technical and administrative aspects of its discipline.

Opening on July 8th, with an invocation by The Very Reverend Edward J. O'Donnell, President, Marquette University, a cordial welcome to Milwaukee was presented by his Honor, Frank P. Zeidler, Mayor of Milwaukee. Dr. A. H. Heidner, President, State Medical Society of Wisconsin; Dr. N. J. Wegmann, President, The Medical Society of Milwaukee County; and Mr. D. C. Firmin, Manager, Veterans Administration, Center, Wood, Wisconsin, added words of welcome from the medical fraternity and the local Veterans Administration installation.

After a fitting response by Mr. Leo Berner, Dr. Joseph C. Griffith, President elect, The State Medical Society of Wisconsin, gave a realistic presentation of the "Importance of Physical Medicine and Rehabilitation to the Medical Profession."

Acting as General Chairman of the various clinical sessions were:

Dr. John F. Sheehan, Dean, School of Medicine, Loyola, University,

Dr. Richard H. Young, Dean, School of Medicine, Northwestern University,

Dr. Lowell T. Coggeshall, Dean, School of Medicine, University of Chicago,

Dr. John S. Hirschboeck, Dean School of Medicine, Marquette University,

Dr. John D. Van Nuys, Dean, School of Medicine, University of Indiana,

Dr. Stanley W. Olsen, Dean, School of Medicine, University of Illinois,

Dr. J. Murray Kinsman, Dean, School of Medicine, University of Louisville.

In presenting the general topics of discussion, the Deans added significantly to the professional quality of the proceedings by their explanations and comments upon the medical aspects of the program.

The first panel discussion of the formal program treating "The Basic Concepts of Rehabilitation" was chairmaned by Dr. Ray Piaskoski, in the absence of Dr. ABC Knudson, originally scheduled, who was in attendance at the International Congress of Physical Medicine, London, England. Dr. Piaskoski, who is Chairman, Director and Professor of Physical Medicine, Marquette University School of Medicine and Chief of PMRS, VAC., Wood, Wis., discussed the synergetic factors in rehabilitation. Florence I. Mahoney, M.D. Chief PMRS, Kennedy VAH., Memphis, Tenn., explained the Approach of Psychiatry. The Emotional concomitants were treated by Dr. Louis Steinberg, Sup't. Elgin State Hospital, Elgin, Illinois. The contributions of psychology to the understanding of the patient of his treatment was detailed by Dr. J. Q. Holsopple, Assistant Chief, Clinical Psychology, Veterans Administration. Social Determinants were elaborated on by Miss Margaret Towne, Program Director and Medical Social Consultant, Wisconsin Association For the Disabled, Madison, Wisconsin. Corrective Therapy as a doing and feeling process was conceptualized by Mr. Leon E. Edman, Field Supervisor, Area Medical Rehabilitation, Area Medical Office, Veterans Administration, St. Paul, Minnesota.

Dr. Harold Hildreth chairmaned the Panel Discussion on Psychological Theory and Technique as Related to Rehabilitation. In opening this investigation, Dr. Hildreth, who is Chief, Clinical Psychology Services, Psychiatry and Neurology Division, Veter-

ans Administration, stressed the necessity for clear communication between psychology and professions engaged in rehabilitation. He was followed by Dr. John M. Hadley, Director of Graduate Study in Clinical Psychology, Purdue University, who discussed psychological practices as dependent upon psychological theory and research. The requirements of training and competence for psychological participation in rehabilitation were presented from the authoritative viewpoint by Dr. George A. Kelly, Professor of Psychology, Ohio State University and President American Board of Examiners in Professional Psychiatry. Some evolving relationships between psychology and Corrective Therapy were discussed by Dr. John Eisele Davis, Chief, Corrective Therapy Veterans Administration. The Veterans Administration Film, "Activity For Schizophrenia, A Corrective Therapy Technique," was shown at the beginning of the symposium as a general orientation to the specifics of the problem involved.

Dr. Daniel Blain was chairman of the Panel devoted to The Rehabilitation of the Hospitalized Mental Patient. Dr. Blain who is Medical Director of the American Psychiatric Association with the assistance of visual aids presented the extent, dimensions and specifics of the problem. Dr. Joseph Kindwall, Dir. Milwaukee Sanatorium, formalized some of the prominent psycho-physiological mechanisms involved. The Multi-directional approach was developed by Dr. Lee G. Sewall, Manager, VAH, Downey, Ill. The activity techniques in relationship to specific therapeutic aims were explained by Dr. Richmond J. Beck, Chief PMRS, VAH, Lyons, N. J. Measurement of therapeutic results was outlined by Mr. Harold Robinson, Chief C. T., VAH, Roanoke, Virginia.

As guests of the Allen Bradley Company Milwaukee, Wis., more than one thousand individuals interested in the field of physical and mental rehabilitation attended a scientific program including a panel discussion upon the subject: "Employment of the Medically Handicapped." Dr. John S. Hirschbeck, Dean, School of Medicine, Marquette University, was the general chairman. The diabetic in industry was the topic developed by Dr. Bruno J. Peters, Chairman of the panel and Assistant Clinical Professor of Medicine, Marquette University and Medical Director, Allen Bradley Company. The Cardiac in Industry was fully discussed by Dr. A. H. Movius, Chief of Medical Department, Western Electric Company, Inc., Hawthorne Works, Chicago, Illinois. To complete the picture, Mr. E. B. Kuehle, Vice President and Claims Manager, Employers Mutual Liability Insurance Company of Wisconsin, explained the problems incidental to the industrial employment of the medically handicapped.

The panel on "Current Techniques in Rehabilita-

tion of Paraplegic Patients" was chairmaned by Dr. Arthus S. Abramson, Chief PMRS, Bronx VA Hospital, Assistant Clinical Professor, PMR, New York University and Professor of Physical Medicine and Rehabilitation, New York Medical College, who stressed the overall problem with emphasis on the increased treatment load of the Veterans Administration. Dr. Louis B. Newman, Chief PMRS, Hines VA Hospital and Professor of Physical Medicine, Northwestern University, College of Medicine, developed the topic relating to the evaluation of the patient's treatment and rehabilitation potentials. The neuropsychiatric factors in rehabilitation were discussed by Dr. Francis J. Millen, Consultant, Neuropsychiatric Service, VAC., Wood, Wisconsin and Clinical Instructor in Neurology, Marquette University, School of Medicine. A careful analytical treatment of the prescription of exercise and activity was presented by Dr. Everill W. Fowlkes, Chief PMRS, VA Hospital, Portland, Oregon. An interesting and informative demonstration of Corrective Therapy techniques in teaching ambulation of the paraplegic patient was given by Mr. Frank S. Deyoe, Assistant Chief, C. T., VAH, Framingham, Massachusetts.

The panel discussion on "The Rehabilitation of the Speech Impaired" was led by Dr. Wendell Johnson, Director, Speech Clinic and Chairman on Speech Pathology and Audiology, University of Iowa. Dr. Hildred Schuell, Chief Aphasic Center, VAH, Minneapolis, Minnesota and Associate Member, Graduate Faculty, Division of Neurology, University of Minnesota, gave a comprehensive picture of speech re-education of aphasics in Veterans Administration Hospitals.

Today's approach to the care and treatment of the geriatric patient proved to be a most interesting subject for panel presentation. Dr. H. A. Kildee Chief, Department of Neurology, Veterans Administration was the chairman. He introduced the general problem with stress upon the aged and aging in the United States. This was followed by Dr. Richard Beck, who commented upon the psychiatric aspects of geriatric rehabilitation. Dr. Joseph L. Whelan, attending neurologist, Detroit Receiving Hospital and Consultant in Neurology, Veterans Administration, provided specific information relative to the neurological problems of the aged. The Corrective Therapy program in domiciliary units was detailed and explained by Mr. Robert L. Kohler, Corrective Therapist, VAC, Dayton, Ohio.

A complete picture of teamwork on a rehabilitation ward as practiced in a Veterans Administration hospital was presented by medical and ancillary personnel of the Veterans Administration Center, Wood, Wic., under the chairmanship of Dr. Edwin C. Welsh, Assistant Chief, PMRS, who discussed the general

problems incidental to the rehabilitation of the hemiplegic patient. Neurological aspects of hemiplegia was analyzed by Dr. B. S. Schaeffer, staff neurologist. Dr. S. H. Friedman, clinical psychologist, treated the psychological aspects. The case presentation was made by Dr. Carl A. Akwa, resident in PMRS. Mr. Desmond D. O'Connell, Chief Vocational Rehabilitation and Education, discussed vocational guidance for this type of disabled person. Specific information relative to the Medical Social Report was provided by Mr. Richard Herman, Medical Social Worker. Post-discharge vocational planning and job placement were discussed by Mr. Alfred E. Meier, Case Supervisor, Wisconsin State Board of Vocational and Adult Education, Rehabilitation Division, Milwaukee, Wisconsin.

The symposium devoted to educational standards for rehabilitation personnel was chaired by Dr. Harvey E. Billig in the absence of Dr. Ben Boynton, who was unable to be present. In his infectious manner, Dr. Billig discussed the need for ancillary personnel. The overall problem in the United States was given a thorough treatment by Dr. Everill Fowlkes. While discussing current curricular revision in schools of physical education, Dr. Harrison Clarke, Director, Graduate Studies, Springfield College, gave a thorough presentation of the personality assets and professional potentials for medical service of the physical educator. The Civil Service Classification standards for Corrective Therapists were given an authoritative explanation and appraisal by Mr. Ralph F. Webster, Chief, Field Classification Service, Veterans Administration. New Horizons of Corrective Therapy was the topic of a most provocative symposium with Dr. J. L. Rudd, Chairman of the Rehabilitation Commission of Massachusetts, and Chief PMRS, VAH, West Roxbury, Massachusetts. Mr. Walter D. Matheny, Director, The Walter D. Matheny School, Inc., Far Hills, N. J. gave a most practical discussion of the application of corrective therapy to the cerebral palsied child. Mrs. Eleanor B. Stone, Instructor in Education, New York University, presented her concepts of corrective exercises for the public school child. Mr. Robert Shelton, Assoc. Professor, Department of Physical Education, discussed the college and university student, and Mr. John C. Foti, Athletic Director, Rufus King High School, Milwaukee, Wisconsin spoke on corrective exercises for the high school student.

Dr. Harry H. Samberg, Chief PMRS, as chairman of the panel on the rehabilitation of the amputee introduced the role of the physiatrist in this specialized area. Surgical procedures in amputation were presented with aid of slides by Dr. Felix Jansey, Senior Attending Surgeon, Wesley Memorial Hospital, Chicago, Ill., Professor, Northwestern University and at-

tending Orthopedist, VAH, Hines, Ill., Dr. Paul J. Collopy, Clinical Instructor in Orthopedic Surgery, Marquette University, and Consultant in Orthopedic Surgery, VAC, Wood, Wisconsin, discussed the post-operative stump care and preparation for fitting the prosthesis. Selecting and fitting the prosthesis was the topic of Mr. Earl H. Daniel, Director, Daniel Institute of Prosthetic Service and Rehabilitation, Fort Lauderdale, Florida. Mr. William J. Zillmer, Chief, Corrective Therapy, VAH, Indianapolis, Indiana, gave specific information as to training in the use of the prosthesis. An instructive film demonstrating the value of the pylon in pre-prosthetic management of the lower extremity was presented by Mr. Jos. H. Phillips, Chief C. T. VAH, Wadsworth, Kansas. Dr. Richard E. Hoover, Assistant Resident, Wilmer Ophthalmological Institute, The Johns Hopkins Hospital, Baltimore, Maryland, as chairman of the panel on Orientation of the Blind, presented a most interesting and informative evaluation of the psycho-social adjustments involved. Mr. Warren Bledsoe, Consultant for the Blind, Veterans Administration, presented a very clearly organized concept of corrective therapy in the rehabilitation of the blind. Job placement was the topic developed by Mr. Russel C. Willimas, Chief, Central Basic and Remedial Adjustment Unit for Blinded veterans, VAH, Hines, Illinois.

The important subject of daily care activities in medical rehabilitation was presented in panel form under the chairmanship of Dr. Joseph H. Gerber, Chief Medical Officer, Office of Vocational Rehabilitation, Federal Security Agency. An evaluation procedure for the home and bed-bound patient was discussed by Dr. Lewis Cohen, Psychiatrist, Detroit, of Physical Medicine and Rehabilitation. Robert E. Britt, Neurologist and Psychiatrist, pointed to the psychological implications of efforts towards independence. Norman Tenner, Assistant Chief, Corrective Therapy, VAH, Hines, Illinois, gave a corrective therapy demonstration on home exercises and activity techniques.

The final panel discussion proved to be one of the most interesting and informative of the entire session. The subject was Employment of The Physically Handicapped and was most ably chaired by Mr. William P. McCahill, Executive Secretary, The President's Committee on National Employ The Physically Handicapped Week, U. S. Dep't. of Labor. Mr. McCahill brought greetings from the President of the United States. Among the distinguished panelists for this occasion was Dr. Paul D. Whitaker, Director, Medical Department, Allis Chalmers Manufacturing Company, who presented the role of the industrial physician. Legal aspects of the employment of the physically handicapped: Attitude of Industry was discussed by Mr. Harry A. Nelson, Director, Work-

men's Compensation, Industrial Commission, the state of Wisconsin. A comprehensive consideration of the industrial employment for the physically handicapped was presented by Dr. E. A. Irvin, Medical Director, Cadillac Motor Division, General Motors Corporation. Mr. William F. Faulkes in his inimitable manner contributed an authoritative discussion of a adequate program for the physically handicapped.

Many questions from the floor attested to the interest of the audience in all of these panels covering the entire field of physical and mental rehabilitation. The audience participation brought out many of the problems from the standpoint of the public as well as the physician and the therapist and supplied most valuable practical information.

In addition to the panel presentations daily demonstrations of Corrective Therapy techniques were provided in a specially organized Corrective Therapy Clinic under the direction of Dr. Everill W. Fowlkes, Mr. Everett M. Sanders, Mr. Les Root and Mr. Everett Converse, Corrective Therapists, conducted these demonstrations.

Formal papers were presented to complement the medical symposia including a most impressive presentation by Mr. Otto Kraabel, National Director, Rehabilitation Commission, The American Legion upon the subject: Physical Medicine As A Laboratory. A comprehensive resume of Physical Reconditioning in The Army Medical Service was presented by Lt. Col. Edward F. Quinn, Chief Reconditioning Branch, Physical Medicine Consultants Division, Office of The Surgeon General, Dept. of The Army. Pertinent opportunities for research in corrective therapy was discussed by Reuben J. Margolin, Ph.D., Executive Assistant, PMRS, VAH, Bedford, Massachusetts, Consultant Massachusetts Association of Mental Hygiene,

Mr. Arthur D. Tauber, Supervisor, Corrective Therapy, VAH, Bronx, N. Y. presented a significant paper on the topic: "The Corrective Therapist Looks to Present Educational Facilities." An important paper on the Duties of the Executive Assistant, Physical Medicine Rehabilitation, was given by Mr. Joseph Van Schoick, Executive Assistant, PMR, Central Office, Veterans Administration.

A most interesting paper on conditioning exercises for athletes was contributed by Mr. Dee Jay Archer, Trainer, The Los Angeles Rams. Dr. C. H. McCloy, Research Professor of Physical Education, presented his usual informative and provocative contribution under the title: "Corrective Therapy in The General Hospital: Some Principles, Some Problems and Some Proposals." A paper on the treatment of low back conditions prepared by Dr. Hans Kraus, Assistant Professor of Physical Medicine and Rehabilitation, New York University was read by Dr. Arthur Abramson.

A brilliant popular presentation of the overall problems of rehabilitation in their impact upon the public was presented by Mr. Philip H. Reither, Special Agent, The Northwestern Mutual Life Insurance Company, as the Key Banquet speaker. The John Eisele Davis Award, created by the Association of Physical and Mental Rehabilitation in honor of its founder, was presented to Dr. John Eisele Davis. A special award was presented to Dr. Arthur Abramson for his significant contributions to the field of rehabilitation and a life membership in the Association of Physical and Mental Rehabilitation was awarded to Mr. George M. Reichle, program chairman, for his outstanding performance in organizing and developing the program of the Sixth Annual Clinical and Scientific Conference.

Educational Qualifications Survey

The Educational Qualifications Survey, recently initiated by our dynamic Past President, Mr. Leo Berner, will be continued. To be of real value to ALL MEMBERS, it will be necessary for ALL MEMBERS to continue their complete cooperation. For those members who did not receive a questionnaire, a postal card request, to Lou Montovano will bring you a copy by return mail. New active members will receive their questionnaire with the membership card, from Stanley Wertz.

This survey of educational qualifications is an individual member's responsibility. To be effective and helpful the questionnaire must be completely and accurately filled out. The educational qualifications of many members have changed since the first questionnaires were completed. These changes should be reported to Lou Montovano at once. Your cooperation in this vital association policy is earnestly requested by your new officers, Mr. Tom Fleming, President, Montrose, New York; Mr. Harold M. Robinson, President-Elect, Richmond, Virginia; Mr. Frank S. Deyoe, Vice President, Framingham, Massachusetts; Mr. Edward Friedman, Vice President, Albany, New York; Mr. Robert Sheldon, Vice President, Urbana, Illinois; Mr. Stanley Wertz, Secretary, Memphis, Tennessee.

CORRECTIVE THERAPY IN THE SURGICAL KNEE*

THOMAS S. ROBERTSON, M.D., Chief, Orthopedic Service
and

JOHN M. HAWK, Chief, Corrective Therapy
Veterans Administration Center, Jackson, Mississippi

FOREWORD

For the past 5 years, the authors have devoted a considerable amount of time and thought to the problem of rehabilitation of the knee joint following surgical treatment. We were not satisfied with the results which had been obtained under the old routine of prolonged immobilization of the joint. These older methods resulted in limitation of motion, quadriceps atrophy, and a poorly functioning knee. In 1947, we began developing a routine of corrective therapy, both pre- and postoperatively, in an attempt to improve our operative results. This paper represents a study of 81 knees which came to surgery for one of a number of common conditions. The techniques outlined herein are the result of considerable trial and error before a more ideal method of corrective therapy was evolved. We have adopted many of the phases of the DeLorme system, particularly with reference to preoperative corrective therapy. We feel that the end results, while not perfect, are at least a long step in the direction of solving this common and troublesome problem.

MECHANICS OF THE KNEE JOINT

The knee joint is not, as it commonly thought, a simple hinge. Hinge motion is present but is accompanied by an external rotation of the thigh on the leg in extension and the reverse in flexion. This is known as "screwing home" or the locking motion of the joint. The mechanism which stabilizes the knee consists of passive and active elements. The passive elements tending to hold the joint in any desired position are the articular capsule and the ligaments; such as the collaterals, cruciates, patellar tendon and their lesser members, the popliteal, transverse and coronary ligaments, and the menisci. These structures passively buttress and hold the femoral condyles and tibial plateaux in accurate apposition throughout their excursion from extension through flexion.

The active elements which stabilize and move the

joints are the muscles; the quadriceps, biceps femoris, and hamstrings, assisted by the gracilis, sartorius, gastrocnemius, plantaris and popliteus. These produce flexion, extension, internal and external rotation of the lower leg on the thigh.

The most active stabilizer of the joint is the quadriceps. This muscle group extends the joint through the action of its components, the vastus lateralis, rectus femoris, vastus intermedius and medialis. This latter muscle is responsible for the last 10-15° of extension which is so essential to solidly locking the joint in the weight bearing position. This entire muscle group inserts into the patella and, through its medial and lateral expansion, into the joint capsule. This wide insertion strengthens and supplements the passive action of the capsule and ligaments of the joint.

QUADRICEPS CHANGES FOLLOWING TRAUMA TO KNEE

Subsequent to any trauma to the knee joint, whatever its nature, certain reflex stimuli are set up by the pain, and swelling. These stimuli produce a weakness or even an actual paralysis of the quadriceps muscle group, usually of a temporary nature. Complete extension and locking of the knee joint is lost or greatly diminished. This loss of function is directly proportionate to the severity of the trauma. Following this paralysis or weakness, atrophy of the quadriceps group sets in and may progress at an extremely rapid rate. In many instances, atrophy of such severity occurs over a period of a few days that it may require weeks of corrective therapy to recover.

When recovery from this atrophy and weakness takes place, the vastus medialis is usually the slowest to respond. This results in the loss of the vital, last 10° of extension and produces an unstable knee joint which is incapable of bearing weight efficiently. Should corrective measures be neglected or even postponed, permanent weakness and atrophy may result. Orthopedists are only too familiar with this type of joint and with the patient's complaints of "buckling," "giving way," or "dislocation of the joint" especially while walking over rough ground.

* Reviewed in the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the authors are the result of their own study and do not necessarily reflect the opinion of the Veterans Administration.

SURGICAL TREATMENT

The surgical techniques used in our practice differ little from those in most localities. Menisci are removed through relatively small medial or lateral peri-patellar approaches. Fractured patellae without comminution are wired or sutured with heavy chromic gut. Patellae which are markedly comminuted are excised completely and the patellar tendon sutured to the remains of the patella. Ruptured collateral or other ligaments are repaired.

Few knee cases are immobilized except for complete patellectomies. These are placed in a Cabot splint for 7 to 14 days and mild quadriceps setting and straight leg raising with the leg in the splint are begun the 7th or 9th post-operative day and continued until more active corrective therapy is begun.

Severe hemarthrosis or joint effusion with marked distention of the joint capsule are drained by a paracentesis primarily to relieve pain. In the early part of our work, penicillin, in amounts up to 200,000 U., was instilled into the joint cavity after surgery. In the past 2 years, this practice has been abandoned and no infections have resulted. Anti-biotics are given routinely by the parenteral route as a prophylaxis.

OBJECTIVES OF CORRECTIVE THERAPY

Corrective therapy in these cases has as its main objective the recovery of quadriceps strength through the rehabilitation of the weakened and atrophied muscle group. This objective is obtained through two phases of rehabilitation — preoperative and postoperative treatment.

Preoperative treatment is instituted with two purposes in mind—the recovery of as much quadriceps strength as is possible, and the education of the patient in the methods of rehabilitation prior to undergoing surgery. We find in our practice that when these two results are obtained, the patient's recovery is more uneventful, less painful, and more rapid. He undergoes surgery with an improved knee mechanism plus an understanding of what is expected of him following surgery.

Postoperative corrective therapy continues a familiar pattern of exercises. The knee which has been subjected to preoperative corrective therapy usually undergoes less weakness and atrophy and reacts less violently to surgical trauma. These cases of internal derangement of the knee joint such as sprains, chronic traumatic synovitis, and fractures in or about the knee, in which surgery is not indicated, usually make excellent progress under an adequate corrective therapy program. Increased quadriceps strength and knee stability protect the joint from subsequent injuries and ultimate recovery is better.

CORRECTIVE THERAPY ROUTINE

When the patient is referred to the corrective

therapy clinic for pre-operative exercises, he is given the reasons why these have been ordered and how the benefit he will receive from active exercise will aid him in obtaining a better knee. The importance of the quadriceps muscle group as stabilizers of the knee joint is impressed upon him. We emphasize that to have a stable knee he must have a good strong quadriceps. Quadriceps setting is taught the patient and he is instructed to set these muscles 50 times every hour while awake. He can do this in a supine position; sitting in a chair with the knee extended; or in a standing position. The supine posture is preferable. The importance of this phase is emphasized as it will be the first exercise he will execute the day following his operation.

All patients are measured for quadriceps atrophy and knee joint range of motion. If the patient has quadriceps weakness, as is usually the case, the next step is to introduce heavy resistance exercise three times a week, usually Mondays, Wednesdays, and Fridays. We have consistently followed the DeLorme system. Usually, unless there is considerable tenderness, pain, or limitation of motion, the patient can increase the circumference of the thigh $1/4$ " in 7-10 days. On the days heavy resistance is not applied, the patient receives active exercise of an endurance nature such as stationary bicycle riding, active leg exercises, and knee bends. The patient is oriented as to the type of exercise he will receive after operation and at what stage of his recovery he can expect weight bearing, walking, and the follow-through to the clinic after the sutures are removed. This puts the patient in the proper frame of mind as he knows what treatment he will receive and such questions as "How long will I be in bed?" "When will I start walking?", and the like, will be answered thus releasing many anxieties and tension states. We also tell the patient that by starting exercise early and by using early ambulation, we prevent loss of quadriceps strength and subsequent atrophy.

After surgery, the leg is placed in extension with no immobilization and pillows are not allowed under the knee. This is important inasmuch as prolonged flexion of the knee is prevented.

The patient should be forewarned that he can expect a varying amount of pain in carrying out his exercises for the first 2 or 3 postoperative days. This pain is in no way injurious to his knee, but by commencing exercises early the soreness leaves more rapidly and the recovery of a more stable knee is accelerated. The amount of pain experienced in these early exercises is minimal and he is instructed to exercise to the point of pain and stop.

Our patients get out of bed on the 4th postoperative day and begin gradual weight bearing by shifting their weight from one leg to the other while in the

standing position. The feet should be comfortably apart with toes pointing straight ahead. Concentration on a straight knee after weight is shifted from one leg to the other is emphasized. The 6th day, walking begins and gradually increases. By this time, most of the soreness has disappeared and they should be able to walk without artificial aid. If properly indoctrinated, most patients are not held back by fear after taking their first walking instructions after surgery.

The following is a routine which we have established for active postoperative exercises:

First day through third day.

1. Quadriceps setting—to capacity, usually 1st day 15-25 hourly, 2nd day 35 hourly, and 3rd day 50 hourly.
2. Leg raise—1 to 3 repetitions hourly.
3. Foot exercise—dorsal, plantar flexion, inversion and eversion, foot circumduction, dorsal flexion with toe grip, 12 repetitions hourly.

Third day through fifth day.

1. Quadriceps setting—50 times hourly.
2. Leg raise—4 to 6 hourly.
3. Foot exercise—12 repetitions hourly.
4. Weight balancing without walking—12 times one period daily, graduated weight bearing.

Sixth day through eighth day.

1. Quadriceps setting—50 times hourly.
2. Leg raise—6 to 8 times hourly.
3. Foot exercise—12 repetitions hourly.
4. Weight balancing—24 times one period daily, graduated weight bearing.
5. Walking with weight bearing—length of ward and back twice daily in addition to bathroom privileges, gradually increasing.
6. Mild flexion and extension of knee after sutures are out on the seventh day—12 repetitions every hour, supine position. Patient scheduled for treatments in corrective therapy clinic day after sutures are out.

Ninth day through fourteenth day.

1. Quadriceps setting—50 hourly.
2. Leg raise—8 repetitions gradually increasing.
3. Abduction and adduction—8 repetitions, gradually increasing.
4. Knee flexion with toe grip—12 repetitions.
5. Prone-leg raise—8 repetitions gradually increasing.
6. Prone-knee flexion—12 repetitions.
7. Flexion and extension off treatment table—12 repetitions.

8. Heavy resistance—starting with 6 to 7 pounds, gradually increasing to capacity.

9. Walking—gradually increasing.

Hydrogymnastics is an excellent modality for this type of patient. The buoyance of the water gives the patient easy movement of the part to be exercised as well as water resistance while carrying the extremity through the range of motion. This type of treatment also builds strength and increases knee range of motion.

The patient is encouraged to continue his exercise treatments at home when he leaves the hospital. He is familiar with the exercises to be executed and the dosage. He understands the application of heavy resistance for home use. Deep knee bends are good quadriceps developers for home execution, starting with 25 and gradually increasing to 100-150 daily.

END RESULTS

In attempting to evaluate our methods, two classifications have been set up. The first, attempts to evaluate the end result in terms of function of the knee joint, and the second in terms of days of hospitalization.

In assaying the functional results, the following criteria have been adopted:

1. Good.
 - a. Full 180° extension.
 - b. 90° or better flexion.
 - c. Normal quadriceps strength.
 - d. Ambulation without pain.
 - e. Stability of the joint.
2. Fair
 - a. 170°-180° of extension.
 - b. 95°-120° flexion.
 - c. Fair quadriceps strength.
 - d. Ambulation with slight discomfort.
 - e. Stability of the joint.
3. Poor.
 - a. Less than 130° extension.
 - b. 120°-160° flexion.
 - c. Poor quadriceps strength.
 - d. Painful ambulation with limp.
 - e. Unstable joint.

These criteria are mainly objective and can for the most part be accurately determined. Quadriceps strength is partially subjective and more difficult of determination. Pain is purely subjective and varies according to the individual, his pain threshold and temperament. The second method of evaluation is taken from the hospital records and represents the actual number of days of hospitalization from operation to discharge.

FUNCTIONAL END RESULTS

Type of Case		Good	Fair	Poor
Ruptured menisci	44	28-63.6%	15-34.1%	1-2.3%
Fractured patella	14	9-64.3%	4-28.5%	1-7.2%
Baker's cyst	7	6-85.8%	1-14.4%	0-0%
Ligament repair	3	2-66.7%	1-33.3%	0-0%
Osteochondroma	5	2-40%	3-60%	0-0%
Foreign body, knee	6	6-100%	0-0%	0-0%
Chronic Synovitis	1	1-100%	0-0%	0-0%
Chronic bursitis	1	1-100%	0-0%	0-0%

Total	81	55-67.9%	24-29.6%	2-2.5%
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DAYS OF HOSPITALIZATION

Cases	7-13 days	14-21 days	21-30 days
Menisci	18-40.9%	14-31.8%	13-92.8%
Patella	0-0%	1-7.2%	12-27.3%
Baker's cyst	4-57%	2-28.5%	1-14.5%
Osteochondroma	2-40%	1-20%	2-40%
Ligament repair	0-0%	0-0%	3-100%
Foreign body, knee	3-50%	0-0%	3-50%
Chronic synovitis	1-100%	0-0%	0-0%
Bursitis	0-0%	1-100%	0-0%

SUMMARY

1. The anatomy and physiology of the knee joint are reviewed.
2. Surgical techniques are discussed.
3. The objectives of corrective therapy are outlined.
4. A corrective therapy routine is described.

5. End results with reference to function and length of hospitalization are tabulated.

CONCLUSION

The methods of corrective therapy presented in this paper have proven effective in a large majority of our cases. In the most numerous series, ruptured menisci, 99 per cent received good to fair results and 72.5 per cent were discharged within 3 weeks of operation. To date, three of these cases have returned for further treatment.

Fractured patellae responded well as to function, 99.5 per cent obtaining good to fair results but required longer periods of hospitalization. 92.8 per cent were in the hospital 21-30 days. This is understandable in the light of the greater trauma, more extensive surgery, and the greater loss of anatomical structures encountered in these cases.

We believe that strict adherence to these principles and further improvements in techniques will result in even better end results, both as to function and length of hospitalization.

THE TOTAL APPROACH IN EDUCATING OUR PHYSICALLY HANDICAPPED YOUTH*

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Chairman, Medical Rehabilitation Commission, Massachusetts Department of Industrial Accidents, and Chief, Physical Medicine Rehabilitation, Veterans Administration Hospital, West Roxbury, Massachusetts.

The total picture or the total concept is being stressed more and more in rehabilitation. From "the nursery to the job" may be a good way to express the attempts of those in rehabilitation to miss nothing in educating the handicapped to become the most useful citizens possible.

An example of this in the industrial sphere and a unique one to our state is the establishment of a Rehabilitation Commission in the Massachusetts Department of Industrial Accidents with its duties prescribed relative to the problems of "rehabilitation of seriously injured industrial workers." The act includes the statement that highlights the thought in regard to the total approach: "Rehabilitation facilities shall include medical, surgical, hospital, prosthesis, vocational, educational, and physical restoration services . . . expenses for the rehabilitation of

the injured employees shall include travel, board and room—when necessary—and shall be paid for by the insurer."

So much of this thinking has penetrated even into the minds of the legislators that it appears that the five members of our Rehabilitation Commission (Medical) may be added on to the nine members of the Board of Education and combined into a State Board of Vocational Education (House Bill No. 2480 later amended as H. No. 2555 and as Senate 668). In this particular situation the educational would be stressed even more than the medical, and in this way place emphasis on the specialty, at present, much less frequently required by the seriously injured industrial worker.

On July 4, 1952 Governor Paul A. Dever held up the signing of the new bill until our Commission was consulted regarding the defects, if any, which needed to be corrected. In its present final form we are, in ninety days from July 4th, to become members

*Presented at the Sixth Annual Scientific and Clinical Conference of the Association in Milwaukee, Wis., July 8-12, 1952.

of the Board of Vocational Education. The present Medical Rehabilitation Commission, though transferred from the Department of Industrial Accidents into the Department of Education is essentially an independent unit. We are given additional duties (without additional pay) to take care of not only the seriously injured industrial worker, but anyone seriously injured in the state and in need of rehabilitation, including educational. This was the work of an impartial Commission to reorganize the State Government, the so-called "Baby Hoover Commission."

However, the best example that has come to my attention of the total approach in the education of our physically handicapped youth is found in our state at the Massachusetts Hospital for Crippled Children. It is there that the orthopedic rehabilitation of the chronically handicapped youth of normal mentality goes hand in hand with the educational rehabilitation. The stated specific aim of the school is to strive to keep pace with the advances in the medical, educational, and vocational fields.

Our contact with the school is through their orthopedic conferences and their residency training program. After completing orthopedic residency at the Boston City Hospital or West Roxbury VA Hospital, where we have departments of Physical Medicine, many of the doctors go to the Massachusetts Hospital School to work with handicapped children, and some return to teach and practice orthopedics at the above named hospitals.

The Massachusetts Hospital School for Crippled Children is unique in that complete boarding school facilities are available for classroom instruction in academic and vocational subjects. The school grades start at nursery school and go through the senior year of high school. The school tends to follow the curriculum of the public schools; supplementing the courses with vocational training. Students, while recovering from operative procedures or who require extensive nursing care, live in the Bradford Infirmary. Here, while confined to bed, they receive bedside teaching in all their school subjects, but every attempt is made to have each child attend the regular school at the Hospital Home whenever possible.

Each student is studied vocationally not only by the officials of the school but also by representatives of the State Division of Vocational Rehabilitation. Each student is advised and guided educationally as well as vocationally with due consideration for his or her physical and mental capabilities. Vocational courses are given in typing, stenography, office machine practice, sewing, cooking, printing, horology (watch or clock repairing), brace making, shoe repairing, dairying, farming, poultry raising and horticulture.

We must not fail to include in total education the

assistance the children receive and give in the preparation of their own food and in the household duties in cottages where they live, each patient contributing according to his or her capacity. By helping one another in many of the personal elements such as dressing and undressing, in transportation, in washing and eating, the following important points are learned: (1) A sense of responsibility for the other person even more handicapped, (2) a spirit of natural comradeship, (3) a realistic, unprejudiced relationship between patients, with release from self-consciousness and self-pity. This is an important basis for later successful living away from the Hospital, the Home, and the School.

Students who do not need intensive nursing care live in cottages made as homelike as possible. Here, the housemothers aid in maintaining the degree of family spirit which would ordinarily be most missed in such a place without such help. The youths are adjusted to group living, educated in social and recreational activities with proper stress on the religious aspects. Even athletic contests with teams from outside schools are arranged (which some may undoubtedly consider the ultimate achievement in the completion of their educational goal). Development of hobbies which tend to help toward a livelihood later on in life are encouraged.

An individual may stay at the School of the Hospital School at Canton, Massachusetts only until he or she reaches the age of twenty-one. Education around this later age period may be continued more from the vocational point of view with a repeat only on some of the educational subjects the patient is particularly interested in, or needs, so that the ultimate job objective may be obtained or so that the youth may at least learn to live a sheltered existence with the ability to accomplish as many of the "demands of daily living" as his condition permits. Some may be referred to sheltered workshops, the Division of Vocational Rehabilitation or the Department of Public Health for further follow-up but the school program is ordinarily completed when the high school course is finished.

A surprisingly large number of patients are "placed" in jobs by the authorities at the school.

In a survey of the 227 graduates of the school, it was found that in the 100 who replied with sufficient information, during the time of the survey, that, since leaving the school, 91% had been employed at one time or another. At the time the survey was completed, 85% of the 100 were actually employed. The breakdown indicates that, numerically, 56 were men and 44 women. The occupations that the men were engaged in were as follows: Horology and its allied fields; printing, including linotype operating; office work; retail sales; factory work. The miscel-

laneous group was found to be engaged in such occupations as laboratory technicians, X-ray technicians, radio announcers, and certified prosthetists. The women, as we would expect, were engaged in office work, such as stenographers, receptionists, cashiers, and the like, and some were engaged in factory work. In the miscellaneous groups we find a school principal, a social worker, and a newspaper correspondent. Another interesting feature; of the 85% employed, 100% of the women expressed complete satisfaction with the employment, and 97.7% of the men felt likewise. We further find that the study indicates that the majority profited from training secured at the Hospital School, especially in the horology, typing, and bookkeeping classes.

Fifty-two of the 100 studied had past hospital training. Of this group we find that 10 were awarded college degrees; those achieved graduate degrees after a college education, and a few obtained training in educational institutions including law schools, business colleges, trade and technical schools, teachers colleges, and art schools.

SUMMARY

The statistics on the preceding pages should help prove the effectiveness of the "Total Approach in the Education of our Physically Handicapped Youth" accomplished in an almost ideal setting.

The Canton, Massachusetts, Hospital-Home-School

with its complete facilities for orthopedic surgery, for home and convalescent care, furnishes a total education which includes daily living, daily learning and daily working. It is, in my opinion, the outstanding institution in this respect in our state.

Information secured from following individuals and bulletins:

1. John J. Carroll, M.D.—Superintendent, Massachusetts Hospital School, Canton, Massachusetts.
2. *The Commonwealth of Massachusetts Hospital School*: Canton, Massachusetts, (printed by Massachusetts Hospital School class).
3. *The Commonwealth of Massachusetts, Department of Public Welfare* (Massachusetts Hospital School of Printing Classes).
4. "A Follow-up Study of a Group of Physically Handicapped Children"—a thesis by Mary Irene Queenan of Boston College Graduate School of Education, June 1951.
5. Division of Vocational Rehabilitation Massachusetts Department of Education. Mr. Edward Callahan, Director of Vocational Rehabilitation, Massachusetts, Department of Education, and Mr. Louis Tracy, District Supervisor, Vocational Rehabilitation, Mass. Department of Education.

PREVENTION OF LOW BACK PAIN*

HANS KRAUS, M. D.

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A great many patients complaining of backache are seen by the general practitioner as well as the orthopedic surgeon, neuro-surgeon, obstetrician, and internist. More often than not, a complete and thorough workup — including all relevant diagnostic procedure — reveals no positive findings. X-rays are negative, as are the tests and the rest of the examination.

Not too long ago, one important cause of backache was again brought to light and placed in the center of attention. It has long been known that "posture" may be responsible for backache, and for some time exercises have been given to improve "posture." Though in many cases this proved effective, the rapid strides made in surgery, and the more structural con-

cepts of posture then prevalent, placed the exercises in a subordinate role.

More recently, however, since our interest in testing and evaluating muscle groups for strength and elasticity and our attempts to extend this type of evaluation to furnish the basis for therapeutic exercises, muscle tests for the back patient have been given with increasing frequency, and are gradually becoming an accepted part of the examination of the low back patient.

In addition to these tests, evaluation of tenderness of the subcutis (fibrositis), tenderness of the muscles proper (myositis, trigger points) has been taken into consideration. A close relationship seems to exist between this tenderness and muscle deficiency. We will, however, omit this aspect of the low back patient here, and concentrate on the functional aspect of relative muscle insufficiency.

*Presented at the Sixth Annual Scientific and Clinical Conference of the Association in Milwaukee, Wis., July 8-12, 1952.

There are various methods of muscle-testing the low back sufferer. The following method, which affords good evaluation and screening, has been used by us on over 5000 cases and has been found most helpful for both diagnosis and treatment of the low back patient.

When this test battery was used, the patient who could not previously be pinned down in any of the accepted categories—the patient who was neither a disc nor an unstable fifth lumbar vertebra, nor any other well-defined diagnostic entity, but had all the painful symptoms—this patient was easily placed in a new group which we might call muscular deficiency, or, if you will, postural backache.

This is the test procedure as we used it, and which has been so helpful as a steady adjunct to the ortho-
dox orthopedic and neurologic examination:

Testing for Muscle Deficiency

Over 4,000 cases of low back pain have been studied and evaluated from this point of view. Of this number, 3,000 were patients in Columbia Medical Center Low Back Clinic; the others in the Low Back Service of the Institute for Rehabilitation of New York University Bellevue Medical Center, as well as patients of private practice.

In almost all cases, the patients were evaluated by a team consisting of an orthopedic surgeon, a neurosurgeon, an internist, a radiologist, and a specialist in physical medicine.

In addition to the conventional tests, the following examination was given:

Palpation was made of subcutaneous tissues of the whole back and gluteal area and the lateral aspects of the thighs. This palpation was performed by picking up a skin fold and pinching it between the thumb and two fingers. A diagnosis of fibrositis was made when this examination elicited exquisite tenderness, and when thickness and coarseness of the subcutaneous tissues were present.

Palpation of the muscles along the spine and gluteal area was done by probing with the tips of the fingers for localized and diffuse deep tenderness.

The patient was then given the following muscle tests: He was placed face down, hips resting on a pillow, hands locked behind the neck. The examiner supported the legs and hips and asked the patient to raise his trunk and to hold the trunk for ten seconds. Following this, the trunk and hips were supported and the patient was asked to raise the lower extremities simultaneously and hold this position for ten seconds. Findings were graded from one to ten seconds, depending on the patient, and noted as "upper back muscle strength" (B^{10}) and "lower back muscle strength" (B_{10}).

The patient was then placed in a supine position with his hands locked behind his neck. While his an-

kles were held down, he was asked to raise his trunk to a sitting position. Ability to do so unassisted was rated as 10, and depending on the degree to which the patient needed assistance, his rating was made accordingly. This gave the rating of the "upper abdominals" (A^{10}).

Following this, the patient was asked to raise both legs to a thirty degree angle and to hold them for ten seconds with the knees straight. This gave the rating for the lower abdominals, depending on the time the patient could hold up both legs (A_{10}). The patient was again asked to sit up from a supine position with his hands locked behind the neck, this time with the knees flexed, in order to obtain a rating for the isolated abdominas (a).

Then the flexibility of back muscles and hamstring muscles was determined. Back muscles and hamstring muscles were combined by having the patient try to touch the floor with the tips of his fingers, knees kept straight, and measuring the distance from the fingers to the floor. Floor touch was considered normal (t), and the distance from fingertips to floor was noted in inches.

Finally, the patient was again placed on his back, his legs were lifted individually, passively, and the angle between the leg and table was measured, normal being between eighty and ninety degrees. Then the combined length of both hamstrings was tested by having an assistant raise both legs and by palpating the fifth lumbar vertebra. As soon as movement at the lumbosacral joint was noted, the angle between legs and table was measured—the normal angle being thirty-five degrees.

These measurements of strength and flexibility were supplemented by measuring the pelvic angle. This was done by holding one branch of a protractor to the plane of the sacrum, and the other branch vertical. The angle thus measured was normal at 165 degrees. Measurements were written as follows:

B	$\frac{10}{10}$	A	$\frac{10}{10}$	10
BH - - t				
H $\frac{90}{90}$				
✓ 35°				
✓ 165°				

Here the formula represents the findings for a normal back. This formula provided a very simple way of comparing relative muscle strength and back muscle and hamstring flexibility.

Case Studies:

For the purpose of gathering fairly comparable

data, only patients whose muscle examinations were made by the author, and who were personally treated and followed up at home, were selected for evaluation. All the patients were in a chronic stage. Acute cases were first treated until the acute spasm had subsided, and were then subjected to examination.

The total number of cases evaluated was 233—48 men and 135 women. The average age was 39 years. The average duration of back pain before starting this program was approximately five years. Deep tenderness at first examination existed in 83 cases out of the 233, and treatment results in these cases at last examination were: Good 58, Fair 19, and Poor 6. The study covered a period of eight years.

The above-mentioned muscle tests, and tests for deep and subcutaneous tenderness were tabulated after treatment. Patients were classified as follows:

Good—no pain, normal measurements in tests, normal activities, no supports—152 cases (65 percent).

Fair—pain gradually decreased and only occasional, improved measurements in tests—60 cases (26 percent).

Poor—pain, with or without improvement of measurements in tests—21 cases (9 percent).

A questionnaire was afterward sent out to the patients, to which 122 replies were received. This questionnaire was approved by the Department of Psychology of the Institute for Rehabilitation. Answers to the questions were tabulated as follows:

Good—patient had no pain, no recurrence, or only very slight recurrence managed by the patient himself without requiring any outside help—100 cases (82 percent).

Fair—19 cases (15.5 percent).

Poor—3 cases (2.5 percent).

Of the "Fair" cases, true recurrence had happened in thirteen and had been treated conservatively. True recurrence in four instances required fusion. Three patients did not answer the question about recurrence.

The considerably higher percentage of "Good" results, as testified by the replies from the patients themselves, assures us that our original evaluation at the time of discharge was reasonably objective, and, furthermore, that a reasonably high percentage of patients were able to lead normal lives, return to normal activities, and keep free of any serious recurrence.

Of the total of 233 cases, the clinical diagnosis, in addition to "muscle imbalance" which was present in all of them, was as follows: orthopedic cases 38 (post-fusion 11, discs 7, post-fractures 5, instability of fifth lumbar vertebra 11, congenital anomalies 4); osteoarthritis 22, rheumatoid arthritis 2, psychosomatic disorder 6, miscellaneous 4 (backache after operation of abdominal or spinal tumors). In 161 cases

there was only muscular imbalance, and they were diagnosed as such without any additional clinical diagnosis. Distribution of muscle deficiencies was as follows:

POWER

1. Lack in back muscle power.....100
2. Lack in abdominal muscle power (upper).....122
3. Lack in abdominal muscle power (lower).....144
4. Lack in rectus muscle power.....156

ELASTICITY

1. Lack of elasticity or muscle length in BH and H.....126
(fingertips to floor)
2. Lack of elasticity or muscle length in BH only.....118
3. Lack of elasticity or muscle length in H only.....1

In our re-evaluation, we repeatedly found in the histories of the patients the fact that they had long pain-free intervals while they maintained a program of at least a minimum of exercise. But when they stopped doing this exercise for a while, recurrence of backaches resulted. Sometimes they were acute episodes, if they did lifting or sudden stooping. When the acute attack, if present, subsided, and the patient gradually resumed his exercise program, he was usually able to achieve a pain-free, normal back. In some cases it was striking to observe how inevitably this back insufficiency, with its resulting difficulties, could be turned on and off, depending on the amount or lack of exercise.

Further observations were made by a posture clinic in which postural deficiency of children was tested. The fact that an exceedingly large percentage of the population was inclined to suffer backache, and that this backache frequently belonged to the muscular variety, led us to the conviction that this very disabling condition might be open to prevention.

The loss of innumerable working hours, millions of dollars in hospital care, medical and nursing care, and loss of income, and, last but not least, untold misery might thereby be curtailed.

It seemed that all these muscular backs occurred either when the patient did something that exceeded his present potential, or if he had so little movement in the course of his daily life that he gradually stiffened up. These two factors were frequently combined. It is quite natural that there should be a limitation on any given function of a back, just as there is a limit to any physical function. However, this potential should not be so low as to be overtaxed so often.

In view of the foregoing, we started to investigate "normal" people, i.e. people who were not suffering from backache, and tested them with the above described method. While this investigation is still incomplete, interesting results have been obtained.

Over 1400 persons, mostly highschool and elemen-

tary school children were tested in a suburban area near New York City, a community which is populated by well-to-do people and has optimum living conditions, with ample room for the children to run and play in. Even in this favorable community, however, 60% of the children (from 5 to 19 years of age) failed in one or more of the tests.

An experimental exercise school (Mrs. Bonnie Hirschland, Director), which had been operating in this same community, had similar failures at the beginning of the working year; approximately 30% after the first year was completed, and approximately 10% at the completion of the second year. This experimental school gave only one hour of exercise per week to its pupils, but tried to extend the influence of this hour by instilling muscle consciousness and the desire for physical activity into a group that up to then had primarily derived their amusement or entertainment as spectators or in some other sedentary capacity.

Similar checkup with adults showed corresponding results. One particularly striking fact was that the ones who failed in the tests usually had a history of backache, whereas the ones who passed rarely had any backache. If they did, the backache was due to a well-defined orthopedic and neurologic condition with adequate trauma in their history.

Another group of adults examined, a smaller group, was interesting because the age range was that in which physicians usually tell their patients to slow up—i.e. they were between the ages of 35 and 55—one member was 60. This group was a very active, athletic group, doing regular walks and rock climbs at least one or two days every week. All of them—including the 60-year-old—passed the tests easily, and were somewhat insulted at the implication that they might not be able to go through the simple motions. But there was one dramatic exception. This exception was a thirty-year-old man who had just joined the group. He had remarkably short back muscles and hamstring muscles (8 inches off the floor), and was the only one in the group with a history of backache extending into the present.

As previously pointed out, this is still a preliminary report, an impression of what we may be able to

say after examining, tabulating, and evaluating many more people, including larger groups which have normal exercises as part of their lives. It is not too soon, however, to draw some revealing conclusions:

Many of the backaches endured by our city inhabitants are due to muscle deficiency, and they improve as the muscle deficiency is relieved by exercise. This type of back trouble can be prevented by maintaining minimum muscular fitness standards. The majority of our population seems to be under-exercised and suffering from the effects of muscle inactivity.

We have the impression that these effects far exceed the actual local muscular difficulties, that lack of exercise reflects on the whole organism and on the emotion life of the person. People who never have an opportunity to out-run, out-dance, or "out-move" some of their emotions are apt to be affected by this lack of motor release. The result is tenseness, both local and general.

It would seem, therefore, that wide new fields are being opened to those of us who are interested in rehabilitation, especially in connection with muscular activity. This interest assuredly goes hand in hand with that of physical educators. We must plan to extend the physical activities, not only of the school child, but of the adult. We must see to it that this physical activity is equally distributed, so that the person who does not make a winning team, or does not make a team at all, gets his full share.

We must foster the idea that at least a minimum amount of exercise (part of which should be formal) is as necessary for our lives as vitamins. Just as we do not receive enough vitamins on reducing diets, and have to supplement them either by stressing special foods or with pills, so we will have to bring back into our lives the minimum amount of exercise necessary for a healthy existence. Having eliminated this exercise by building up an extremely superior mechanized and civilized society in which physical activity is almost at a standstill, we must now ironically replace these physical efforts—in "pill" form, if necessary.

Here indeed is a challenge and a provocative project well worth our time and energies.

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RESEARCH: COMPARISON OF BILATERAL QUADRICEPS STRENGTH AS RELATED TO GOOD AND BAD STANDING POSTURE

KARL K. KLEIN

Assistant Professor of Physical Education
Ithaca College

A recent study conducted by the writer was instigated as a result of a number of years working with post menisectomies and other types of knee injuries that have resulted in quadriceps atrophy. Observation of these individuals, in their habitual standing patterns following surgery or injury, has indicated a tendency to favor the involved leg by assuming a standing posture in which the body weight has been shifted to the stronger leg. It had been further noticed, that through the process of strength building¹ and verbal motivation, that the individuals were made posture conscious and as the involved leg became stronger, through the administration of progressive remedial exercise², the individuals began to stand with the body weight more evenly distributed on both feet.

The results of this observation developed the interest in the problem of possible differences that might exist in the bilateral muscle strength, of the quadriceps muscle groups, of individuals who were not influenced by knee injury or operations but who had developed habitual standing posture that did not conform to accepted patterns of body mechanics.

A group of students, interested in the problem, were assigned to assist in gathering the necessary data. Group number one was assigned to locate individuals who were observed to habitually stand in poor postural balance with the body weight shifted to one side with the majority of the body weight being carried in one leg. Group number two was assigned to locate individuals who were observed to habitually stand with the body weight evenly distributed on both feet. Slight swaying movements of the body were accepted as good balance as long as the person balanced on both legs with a degree of consistency.

Each group was assigned to observe the individuals selected, on as many occasions as possible, for a period of seven weeks and were to keep an accurate observation record of the standing posture during this period. At the end of the observation period the observed individuals were asked to submit to tests to determine the quadriceps strength of each leg in order to find possible differences in strength as a result of the observed standing posture.

Number of Cases Observed

A total of thirty cases were observed over the seven week period; fifteen were observed to stand in habitually unbalanced standing posture and fifteen were observed to stand in habitually good balanced standing posture.

Of the fifteen observed to stand in unbalanced standing posture, thirteen were tested and results were obtained. Of the two not tested, one had a sprained ankle and was confined to crutches, the other did not show up for the scheduled test. One indicated previous injury to the knee with considerable incapacity at the time of injury so the record was not used due to this factor.

Of the fifteen observed for good balanced standing posture, twelve were tested and results were obtained. Of the three not tested, one had an existing knee injury and did not wish to be tested and two did not show up for the scheduled test.

Method of Testing the Individual Quadriceps Strength

Heavy Resistive Exercise was used as a method of testing the strength of the individuals' quadriceps muscle groups. By this method an accurate and rapid record could be obtained. An arbitrary amount of weight was selected to be lifted by the individuals being tested. The amount of weight to be used was established at thirty-five (35) pounds for the men and twenty-five (25) pounds for the women. The selection of the weights was determined as a result of previous experiences with quadriceps muscle atrophy cases.

Administering the Tests

The person being tested was seated on a table and padding was placed beneath the leg being tested to act as a cushion. The person was instructed to sit up straight and grip the back of the table with both hands. The weight lifting boot was attached to the foot and the person instructed to lift the weight slowly by extending the knee to full extension; upon reaching that point the knee was to be immediately flexed slowly to ninety (90) degrees of flexion and then immediately extended to full extension³. This process was to continue until it was impossible to extend the leg to full extension as a result of quadri-

ceps fatigue. The exact number of complete lower leg extensions were recorded for each leg. In all cases the test was first administered to the right leg and then to the left leg.

Each person being tested was asked to cooperate fully in carrying out the test until it was impossible to continue the activity.

Test Results of Unbalanced Standing Posture

Case No.	Lbs. Wt. Used	No. Repetitions	Favored Leg
1	55	R-15 L-19	L. Leg
2	55	R-24 L-28	L. Leg
3	55	R-23 L-20	R. Leg
4	55	R-19 L-17	R. Leg
5	55	R-20 L-16	L. Leg
6***	55	R-24 L-28	R. Leg
7*	25	R-28 L-32	L. Leg
8*	25	R-17 L-22	L. Leg
9*	25	R-19 L-21	R. Leg
10*	25	R-22 L-18	R. Leg
11*	25	R-27 L-40	R. Leg
12*	25	R-23 L-26	R. Leg

Test Results of Balanced Standing Posture

Case No.	Lbs. Wt. Used	No. Repetitions	
1	55	R-17 L-17	
2	55	R-38 L-38	
3	55	R-26 L-26	
4	55	R-33 L-34	
5	55	R-19 L-19	
6	55	R-12 L-13	
7	55	R-34 L-34	
8	55	R-20 L-20	
9	55	R-26 L-26	
10	55	R-16 L-16	
11	55	R-21 L-20	
12*	25	R-20 L-21	

*Girls Tested.

***Results apparently influenced by type of physical activity.

Experimental evidence and research have indicated that certain physical activities have a tendency to influence unilateral muscular development. Truslow and Rathbone⁴ substantiate these findings in their books dealing with the problems of Corrective Physical Education and Body Mechanics. Truslow⁵ further indicates that certain physical activities have a greater tendency than others to influence this growth factor, i.e., baseball pitching, pole vaulting, javalin, shot put, discus, canoeing, etc., if carried on over long periods of time. As a result of this knowledge, each of the cases being tested was questioned concerning their physical activity program in an effort to locate factors that might have influenced quadriceps muscle development. Of the entire group, only one person indicated that he had participated in one of these

activities, as listed above, that would account for the unbalanced quadriceps development. This person had pitched in competitive baseball for a period of six years as a left-handed pitcher. The evidence of such influence was indicated in the test results as well as in actual thigh measurement. None of the other cases tested indicated extensive participation in any of the unilateral muscular developmental activities.

Summary for the Group Observed to Stand in Unbalanced Posture

Physiological Laws of body development indicate that the muscle structure growth is influenced by the way the body weight is borne⁶. Of the cases studied with unbalanced standing posture, the evidence indicates and substantiated these laws and the total results have a tendency to have a positive relationship with the laws of body development in a majority (.583%) of the cases. A negative tendency between the laws of body development and the test which indicated that there may be other factors to results is shown in a minority (.416%) of the cases be considered in the problem.

On the basis of the total results of the study of this group it is indicated that unbalanced standing posture may be an influential factor in unilateral quadriceps development.

Summary for the Group Observed to Stand in Balanced Posture

The Physiological Laws of body development show a positive relationship between quadriceps muscle strength and balanced standing posture in this group. Of the twelve cases tested, a large majority (.66%) were capable of lifting the weight the same number of times with both quadriceps muscle groups. Of those that showed a variation in lifting capacity (.33%) the difference between the right and left quadriceps muscle strength was only one repetition of the weight lifted. This is an insignificant difference as compared to the variations found in the unbalanced standing posture group.

From this evidence, it is indicated that there is a positive relationship between balanced standing posture, bilateral quadriceps muscle strength and the Physiological Laws of body development.

Conclusions

From the conclusions drawn in this study, the evidence of the variation in bilateral strength have specific implications in the posture training program as well as in the athletic training program. Specific interest should be shown in this problem by the Physical Educator, Corrective Therapist, and Athletic Trainer when dealing in the teaching of activities that necessitate extra stress and strain at the knee joint. Many daily living activities as well as specific phases of athletics, i.e., football, soccer, wrestling,

basketball, and certain phases of track and field⁷, could and possibly have been responsible for menisci tears to the knee that has not been supported to best advantage by strong quadriceps.

If there is not a balance of quadriceps strength, as indicated in the individual who habitually stands in poor postural balance, it is very likely that a potential knee injury is likely to be experienced in the weaker knee if the situation predisposing injury occurs. With this thought in mind, it is the obligation of the therapist, physical educator, coach, and trainer to see that maximum protection is provided through the stressing of good standing posture, specific resistive exercise to build bilateral muscle balance, when it does not exist, as well as specific resistive exercise to strengthen the quadriceps muscles for maximum protection.

Although body balance and muscle strength are not an absolute guarantee against injury, it plays an important part in the problem and should be used as a preventative measure.

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"HOOP BIRD," AN ADAPTED SPORT

NORMAN LERMAN AND BERNARD WEBER

Corrective Therapists
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Hoop-bird, or functional badminton, was developed for the specific purpose of enabling those individuals limited to the confines of a wheel chair. Post-polio patients were first emphasized, but it soon encompassed all types of disabilities. The purpose of the game is to obtain maximum use, within limits, of heretofore disabled and weakened muscles, and to create a new adapted sports activity for disabled patients. Through the media of adapted sports, new therapeutic approaches are realized in the physical and mental rehabilitation of these disabled persons.

Recreational outlets, if offered at all, are limited to this group. Therefore, motivational stimulation would hardly be necessary because any form of recreational activity would be cheerfully accepted. The patient's enthusiasm to play again will tend to break down, decrease and possibly eliminate any and all mental blocks of pain when present. He will, in his desire to hit the bird, go beyond any previous range of motion displayed in the clinic because of this pain, and will suffer no ill effects as he is not conscious of his extended movement. In addition to the in-

creased range of motion he is keeping the rest of his body in good physical tonus through his activity. His mental outlook in regard to his limitation will improve (be somewhat heightened).

DESCRIPTION OF THE GAME

The implements used in this game are two regulation badminton rackets, a hoop (Fig. 1) which may be made of any flexible material as wire, plywood, bamboo or spruce. The ball should be the "fleece-bird"; it is a small tennis-like ball made of yarn and weighs the same as a regulation badminton bird. The fleece ball has proved more durable and easier to see than the bird, but if they are not available, indoor badminton birds may be used. The hoop tends to stress volleying and minimizes difficult shots which would normally require locomotor action.

1. Dimensions of the court (Fig. 2)
2. Scoring
 - a. The game consists of 21 points.
 - b. Each player serves five times and then becomes the receiver the next five serves, and so on.
 - c. Points are scored as in ping-pong.
 - d. If bird fails to go through the hoop, the opponent scores a point.
 - e. The best two out of three games is a set or match.

*Reviewed in the Veterans Administration and published with approval of the Chief Medical Director. The statements and conclusions published by the authors are the result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

3. Choice of service and courts

The winner of the toss has the choice of service or receiving or defending a particular side first. The loser has a choice of the remaining options. Players change courts at the end of each game and the winner serves first.

4. Rules of the game

- Bird must be served through the hoop and not land in the dead area.
- To put the bird in play, the serve must land in the serve area (see diagram). Loss of the point if the serve lands in the dead area.
- If bird fails to go through the hoop or lands outside the court after serve is completed, it results in the loss of a point for the offender and his opponent gains a point for his score. Lost points are not deducted from the total score.
- All serves must be made underhand and must be hit and not carried or pushed by the racket. Opponent gains the point when illegal serve is made.
- The bird may not be hit twice in succession by the same player. Loss of the point for infraction.
- If on the serve the bird is missed or the serve lands in the serve area after striking any part of the hoop it may be played over once. All other misplays result in the loss of the point.
- Play continues as long as the bird is air-borne and continues to pass through the hoop. Play terminates when the bird touches the ground or fails to pass through the hoop. The offending player loses the point on infraction. The boundary lines are considered in bounds.

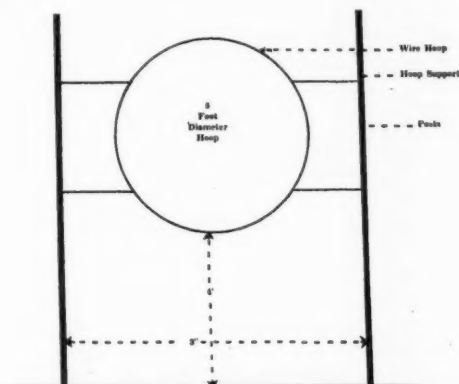
5. Playing the game.

- The grip.** The racket should be held so as to be able to handle any type of shot without changing the grip. The usual grip is where one shakes hands with the handle as with the tennis grip. Hold firmly but not gripped, most of the action comes from the wrist.
- Strokes.** As this game is played in a limited area, control of the bird is extremely important, the stroke should be powered with a wrist flick rather than a shoulder movement. All standard badminton strokes are employed, the serve, volley, lob, forehand, backhand and smash. The best position to take in preparation for the serve is with the racket arm held approximately parallel to the hoop with the patient sitting at an angle to the hoop, so as to use a crosswise movement of the arm. This utilizes the best action of the pectoralis major.

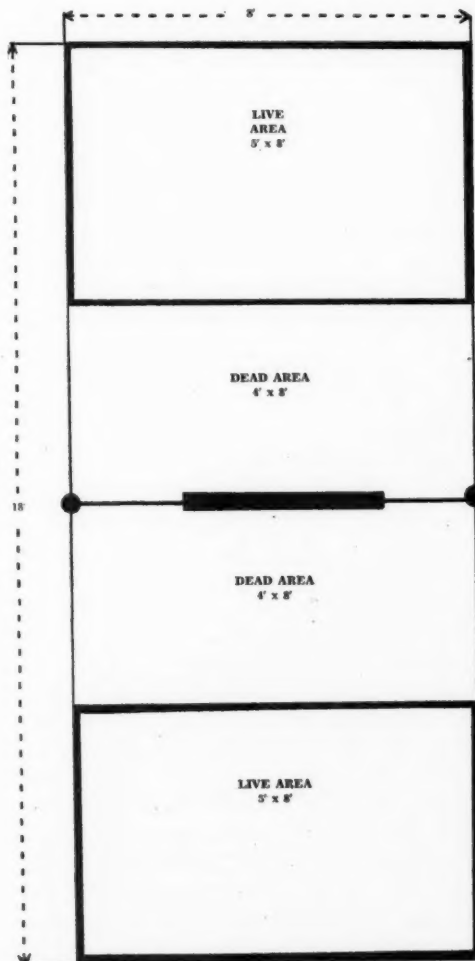
6. Care of equipment

The racket should be tightly strung, always stored

away from dampness and excessive heat and kept in a press when not in use. The birds can be washed out in warm soapy water and rinsed in cold water.



HOOP POSITION
Fig. 1.



COURT AREA
Fig. 2.

The Forum

Editor's Note: "Since the success of the FORUM will be dependent upon reader response, your editorial staff urges that you contribute both questions and answers." This statement appeared in the May-June issue. An editorial in the Convention issue again urged cooperation. This last editorial made an appeal that asked you to share your experiences with the entire membership. As the response from readers to the FORUM idea indicates a lack of interest in the column, it has been suggested that the publication of "Letters to the Editor" might be used in the space allotted to the FORUM. WHAT IS YOUR DESIRE?

Below are the questions that have been published to date. Were they answered to your satisfaction? If not, why not take a pen in hand and send us your answer. Why not send the editorial staff the question, an answer to which might assist you in solving one of your most difficult problems. A two penny postal card written today will suffice.

QUESTIONS USED

- 1—Why do some paraplegic patients who have become expert in crutch walking go home and remain satisfied with a wheel chair existence?
- 2—How long should the so-called warm-up period be, prior to the giving of training in self care activities, for a patient with a right hemiplegia resulting in a flail arm and leg, aphasia, agraphia and alexia?
- 3—What constitutes a good progress note?
- 4—What method of measurement should Corrective Therapy use in the evaluation of functional disability or in the evaluation of progress or the lack of it?
- 5—What exercise program is most beneficial for weakened or restricted shoulder motion?

This last question, published in the Mar.-April issue still remains unanswered.

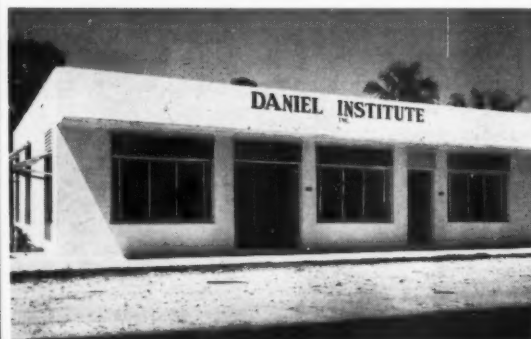
The first anniversary of the FORUM idea will be with us when the Nov.-Dec. issue goes to press.

We must never lose sight of the fact that the most important contribution of our membership is to render a service to the handicapped patient that no other group of therapists can do as well. To quote from the Nov.-Dec. issue of 1951—"It is well to remind ourselves frequently that—**WHAT THEY HAVE LOST IS IN THEIR PAST. OUR JOB IS TO HELP THEM MAKE A FUTURE WITH WHAT THEY HAVE LEFT.**" Neither should we forget that the human, regardless of vocation, finds time to do the thing he wants to do. Your editorial staff sincerely hopes that as the first anniversary of the FORUM becomes a reality that your questions and answers will arrive in such quantity as to make it necessary to devote pages to the FORUM. **THIS COLUMN IS FOR YOU! THIS JOURNAL IS YOURS.**

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A special three-week course for V. A. Therapists, tuition \$75.00, 3 books included, will be offered Oct. 13, 1952.

"From Other Journals"

FRANK R. OBER, "Lame Back—Some Common Causes and Conservative Treatment," *The Journal of the American Medical Association*, 148:438-440, February 9, 1952.

The fundamental reason for mechanical pain in the back is an abnormal change in the normal physiological curves of the spine. There are six main groups of etiological factors: Traumas, bad posture, congenital malformations, diseases of the bones and joints, malignant disease, diseases outside the spine. Assuming that all conditions predisposing to low back pain which are not concerned with those causes which enter into the mechanism and physiology of the spine have been removed where possible, treatment may be separated into four stages:

Acute—In a mild attack use of a transverse double-thickness adhesive plaster strapping will usually suffice. In severer attacks bed rest on a firm mattress is indicated. Hot packs or a heat lamp often give great relief. If sciatic pain is present, a pillow under the knee may relieve some of the pain.

Subacute—local heat plus gentle massage is beneficial. If there is no sciatic pain, the patient may compress his buttocks slowly and firmly 25 times three or four times daily. He may also raise his head and shoulders off the bed a short distance, holding the position for three or four seconds, repeating this 25 times three or four times a day. A corset or other back support is indicated at this time.

Chronic—Avoid motions that cause discomfort or pain. Heel lifts may be needed.

Rehabilitation—if sciatica is not present, give exercises to relieve the fascial contractures. Next stretch the anterior thigh structures and finally the posterior leg contractures. When the acute low back symptoms have subsided, exercises to develop the gluteal and abdominal muscles should be given. When these have sufficient tone, attention should be given to correcting bad posture.

A common exercise prescribed for lame back is to have the patient bend over. Lame backs are often caused by bending over. It would seem that such an exercise should not be performed. Further, it does nothing to restore the physiology of the spine. However, stretching exercises may be used to relieve contracted spinal muscles. No exercise should be performed that causes discomfort.

JJR

"THEY WORK AGAIN" *Newsweek*, pp. 58-60, June 30, 1952. Is the rehabilitation of the chronically ill and disabled economically practical?

Dr. Howard A. Rusk, Chairman of the department of Physical Medicine and Rehabilitation of New York University College of Medicine has figures to prove that rehabilitation of the severely handicapped people pays dividends in dollars as well as in social and medical returns. Based on a follow-up of study of 208 patients one year after their discharge from rehabilitation services it was found that 90 per cent of the individuals in this study derived some benefit from their rehabilitation experience. Results obtained were as follows: Patients confined to wheelchairs reduced from 68 per cent to 32 per cent. Bedfast patients reduced from 36 per cent to 11 per cent. The number of patients incapable even of minimum self-care decreased from 65 per cent to 15.5 per cent.

Upon entering the hospital 19 or 9.1 per cent of the 208 patients were employed or in training. The follow-up showed 80 men and women (38.4 per cent) were working or in training. Complete figures of the yearly earnings of those now at work are not available, but the economic net gain of 31 people who had been incapacitated by their disability and the potential earnings of 18 in training for employment were estimated at \$95,800. Without retraining the majority of these people would never have worked again. The basic cost of rehabilitating these 49 patients was approximately \$175,000. The amount of their income in two years would therefore liquidate the cost of their rehabilitation.

JPC

HERBERT KENT, "Physical Medicine and Chronic Illness," *The British Journal of Physical Medicine*, 15:73-74, April, 1952.

The number one medical problem in the U. S. and Great Britain is chronic illness. A 1935 report stated that chronic disorders affected more than 25,000,000 individuals in the U. S. The objectives of Physical Medicine and Rehabilitation for most of the chronically ill will resolve themselves to one or more of the following treatment goals: 1) relief of pain, 2) prevention of deformity, 3) improvement of muscle strength, 4) ambulation or locomotion, 5) self-care, 6) vocational rehabilitation, 7) tonic or diversional therapy.

In long term cases emotional recovery will require a considerable period, and this should be planned for at the outset. The chronically ill must be taught to live and remain within the limits of activity prescribed by their illness, and at the same time carry on economic independence.

PJR

BERNARD J. FIGARRA, "Intolerance of Athletes to Infection," *New York State Journal of Medicine*, 52:1036-37, April 15, 1952.

Athletes tolerate infections very poorly, even with the availability of antibiotic therapy. This may be due to one or a combination of three factors:

1. The constant state of elevated basal metabolism due to excessive physical activity.
2. The absence of a general reserve capacity to combat infection. Apparently the normal reserve capacity is consumed by the athlete during the constant period of training.
3. The presence of an enlarged thymus gland which results in a pathologic state similar to status thymus lymphaticus.

PJR

ARTHUR L. WATKINS, "Practical Applications of Progressive Resistance Exercises," *Journal of the American Medical Association*, 148:443-446, February 9, 1952.

The prescription of therapeutic exercise should be detailed and specific. The purpose of progressive resistance exercise is primarily to increase strength. To develop muscle strength at an optimum rate approximately 3 sets of 10 repetitions each of a given exercise each day are necessary. The usual practice is to determine the load a patient can move thru a normal range of motion only 10 times. He is warmed up with 10 repetitions of 50% of this maximum, given a rest period, the exercise is repeated with 75% of the maximum, and finally with 10 repetitions of the maximum. It is important to have rest periods of one or two days each week. Counterbalancing methods may be used, but great attention must be paid to details of technique. Progressive resistance techniques are of proved value in injuries involving the knee, back, amputations, polio, neuritis and nerve injuries, paraplegia, spastic paralysis from upper motor neurone lesions, arthritis and disuse atrophy, but should be avoided in cases of diseases of the coronary arteries, high blood pressure, extensive arterial sclerosis or other obstructive diseases of the arterial system.

PJR

AUGUSTUS THORNDIKE, "The Trauma of Athletics," *The New England Journal of Medicine*, 246:335-339, February 28, 1952.

The regions of the body most frequently injured in those sports with the greatest number of participants are the shoulder, knee and ankle. To the surgeons concerned with early restoration of injured athletes to normal function, new modalities for the application of heat and controlled resistive exercise are of great interest. Remedial exercise has at last come of age. Great progress has been made in focusing the attention of the medical profession on the need for scientific measurement of exercise tolerance and restoration of function in muscle atrophy. In athletic injuries the rapid restoration of function in atrophied muscles is a "must." Even the atrophy of disuse can be largely checked during convalescence with a properly measured remedial exercise program.

PJR

PHILIP WORCHEL and MELVIN H. MARKS, "The Effect of Sleep Prior to Learning," *Journal of Experimental Psychology*, 42:313-316, November, 1951.

Two graduate students learned lists of 12 nonsense syllables to a criterion of one perfect repetition. Under the conditions of the study, a period of 1-1/2 hours of sleep preceding a learning session significantly impaired learning ability.

PJR

Editorials

DYNAMIC MEDICAL REHABILITATION IN THE TREATMENT, ADJUSTMENT AND EMPLOYMENT OF THE DISABLED

Editor's note:

This address was delivered at the convention banquet of the Sixth Annual Clinical and Scientific Conference of the Association for Physical and Mental Rehabilitation by Mr. Philip H. Reither, Special Agent, The Northwestern Mutual Life Insurance Company of St. Louis, Mo., at the Hotel Schroeder, Milwaukee, Wisconsin, July 10, 1952. The title of this inspiring talk was the theme of the conference.

Last winter America's most famous bi-lateral arm amputee stood before a group of physicians, rehabilitation therapists, and legislators, raised his two artificial arms, smiled, moved his two steel hooks, and said, "Look, this is what Corrective Therapy did for me." Whether Corrective Therapy alone actually did all that for Harold Russell is disputable. But I tell the incident because I believe it is indicative of the deep appreciation hundreds of unsung Harold Russells have for this relatively new and essential phase of total Physical Medicine Rehabilitation, namely, Corrective Therapy.

I want to tell you of another incident. It happened yesterday during my plane ride from St. Louis to Milwaukee. I found myself sitting next to a man of about sixty, with two artificial legs, and who seemed to be doing quite alright with the aid of two canes. Briefly, his story was this. Fourteen years ago this summer he woke up in a city hospital room, minus both legs above the knees, the result of an auto accident. Surgery and post-operative stump care were successful. Then, at the time of hospital discharge, he was faced with the problem of learning by himself to use two artificial legs or having recourse to a wheelchair. What happened? He ended up in what I believe he termed the domiciliary section of a veterans administration hospital, where, in 1948, after almost nine years in a wheelchair, his case attracted the attention of a Corrective Therapist. They began to work under the close medical supervision of that therapist's doctor of physical medicine. Six months later he departed for civilian life, was reunited with his wife and family, obtained a fine job in industry, and is today a mighty grateful man to that Corrective Therapist, probably present here this evening, who picked him up, as it were, and started him on the road to complete rehabilitation, a job, and his rightful place in society.

It is not my purpose to go on enumerating case histories. No, but I do want to speak about total rehabilitation, especially the adjustment and employ-

ment phases, without which the total medical rehabilitation process is incomplete. During the past few years Physical Medicine Rehabilitation has progressed to an accredited medical specialty, as is evident through formation of the American Board of Physical Medicine and Rehabilitation for certification of physiatrists. The Section on Physical Medicine and Rehabilitation is now an integral part of the American Medical Association. Perhaps no other medical specialty has created in so short a time so many demands for its services. This is due, I believe, to the excellent results obtained by this new medical specialty in the field of physical and mental restoration, both during and following the definitive medical treatment of our disabled. The situation is almost paradoxical: most of our medical schools have expanded to include a Department of Physical Medicine Rehabilitation; numerous residencies and fellowships are available; rehabilitation institutes have been established and popularized; many hospitals are operating Departments of Physical Medicine and Rehabilitation; others plan to do so. Yes, the need for total medical rehabilitation, including the newer therapies, such as Corrective, has become greater than the supply. It is an important, legitimate medical need. We cannot, and must not, we will not fail to meet this need.

Total, dynamic medical rehabilitation! Oh, it includes more than physical and mental restoration and a hospital discharge. It must carry through, where possible and in keeping with the patient's limitations, to include post-hospital discharge adjustment and employment. I am not here to seem critical. I simply maintain that the liaison work between our medical rehabilitation programs and industry, except in isolated cases, is not what it might have been, what it could be, what it must be in this total dynamic medical rehabilitation process. It isn't that industry isn't interested and vitally concerned. It isn't that the medical profession doesn't realize. The medical profession needs industry. Industry needs the medical profession. These two groups must be brought together, mutually so, in the treatment, adjustment, and employment of the disabled, in whom all of us have the same common concern and interest. To do this, our medical rehabilitation program, in addition to Physical and Occupational Therapy, in addition to Corrective and Manual Arts and Educational and Speech Therapy, in addition to Medical Social Workers and Vocational Guidance personnel, must expand to include, yes, in each medical rehabilitation program, be it Veterans Administration

civilian, one, or two, or more highly qualified and enthusiastic job placement officers, men whose sole function it will be to bridge this span between our medical rehabilitation programs and industry. These job placement people, as I see it, must be made an essential part of our rehabilitation teams. They must come to know and understand and appreciate the disabled person, yes, from the day of hospital admission; through personal contacts with the patient, through observation of the patient's reaction to treatment, through group conferences with the rehabilitation team, through private sessions and evaluations made by the physiatrist on each such patient. They must come to know and understand the patient's interests and aptitudes and abilities. They must weigh and evaluate all this accumulated information in the light of physical and mental limitations—all this, I say, with a view to post-hospital discharge adjustment and job placement. A big task! Indeed, it is. But there is more to bridging this span between medical rehabilitation and industry. These job placement officers must be men who know industry. They must be prepared and equipped to take all this information to industry, to sit down, singly or in combination, with the employment officer, the industrial physicians, the prospective immediate supervisor of each such disabled person. I, for one, refuse to believe that industry will not respond with a sympathetic ear to this type of coordinated liaison work. I refuse, too, to believe that industry will not be most considerate until each such disabled person is not only on the job, but also turning in satisfactory work performance and proud of it. I know of instances where this type of job placement is working between industry and rehabilitation programs in the Veterans Administration; where this type of job placement is working between industry and rehabilitation institutes. It can and must be made to work this way, not just here and there, but everywhere (and), throughout our entire nation.

This problem of industry and medicine coordinating their best united efforts in the adjustment and employment of our disabled is not a difficult one. It requires no research, no surveys, no extensive engineering projects. It requires no more than matching specific abilities of our disabled against specific physical job requirements. Yes, it's as simple as that.

Sometimes I am inclined to believe that those of us who are in the insurance business see the adjustment and employment problems of our disabled from a viewpoint unfamiliar to the average person. I have found in my contacts with the disabled during the past few years that they, like all of us, prefer to work for a living. They, too, find something satisfactory about turning in a day of honest work, about taking home a day's pay, paying state and federal income

taxes, doing their best to make our nation strong. Very few of our disabled, I assure you, when the chips are on the table, want to be charity cases, live on relief, rely on pensions. For the disabled person who is able to work there is nothing more satisfying than to be a working and productive member of his community.

This coordinated teamwork between the medical profession and industry in the treatment, adjustment, and employment of our disabled is not a one-way proposition. Assisting them to become economically and socially independent strengthens our whole economic structure. It opens new sources of manpower. It lessens the load on the taxpayer. (Oh,) I am not here to quote figures and statistics. Today the United States has approximately 2,000,000 disabled men and women capable of joining our productive economy, men and women, most of them begging and pleading for just one break to join our work force. Let's train and hire and put these 2,000,000 people to work—in our factories, our shops, our offices, on our farms. Medical rehabilitation that does not grow and prosper and implement itself with every legitimate means, including the newer therapies, taking neither rest nor vacation in the unfaltering pursuit of the final rehabilitation goal—a JOB—is not worthy of the name total dynamic rehabilitation. Yes, it is our moral responsibility to render to each of them that to which they are so rightfully entitled.

Ladies and Gentlemen, this is your task, my task, the task of all of us. It is a common goal. We must keep working at it until every qualified disabled person is on the job, earning his living, enjoying a respected place in society, contributing to make our nation strong in a free world. Then, and then only, will we be assured of no finer human investment, the total rehabilitation of every disabled person. Then, and then only, will we be assured, too, of a finer and nobler rehabilitation program for the American disabled yet unborn.

NEW HORIZONS FOR CORRECTIVE THERAPY

Another milestone has been passed with the termination of the Sixth Annual Clinical and Scientific Conference of the Association for Physical and Mental Rehabilitation. These new horizons always present, always challenging, may have been seen many times but not brought into focus. New horizons—although within reach—become very elusive during debate and controversy.

The conference theme: "Dynamic Medical Rehabilitation in the Treatment, Adjustment and Employment of the Disabled," brought into full view many new horizons that present problems to medicine, corrective therapy and industry that can be solved. The meeting of minds from these three disci-

plines has shown quite conclusively, that human history demonstrates over and over, how man ranks pleasure among the necessities of life. This effort to identify, cure and prevent the ills of mankind: dealing with the diagnosis, treatment and prevention of diseases; corrective therapy concerned with the restoration of man's physical and mental abilities to enable him to make optimum use of what he has left, to bring about a return of his happiness and a feeling of security with industry providing the re-employment opportunities for the disabled, has defined some of the problems and charted the course which seeks their solution.

The opening day of the conference was devoted to a consideration of the basic concepts of rehabilitation; emphasizing the need for setting the proper goals, their frequent evaluation and the importance of team work in carrying them out; psychological theory and techniques as related to rehabilitation, defining the methods of getting the patient to understand what the therapist wants the patient to do to help himself and the rehabilitation of hospitalized mental patients, showing the complexity of the problem and the need for concerted action and team work at all levels of the rehabilitation process.

"Current Techniques in the Rehabilitation of Paraplegic Patients; Rehabilitation of the Speech Impaired; Today's Approach to the Care and Treatment of the Geriatric Patient and Team Work on a Rehabilitation Ward," were the topics considered during the second day of deliberations. The luncheon meeting of the members of the Medical Advisory Board with the Representative Assembly of the Association inaugurated an annual event at which time many of the Association policies will be formulated. The adoption of adequate standards and opportunities for clinical training, based upon the needs as indicated by the Educational Survey that has been in progress this past year, developed a feeling that but four years of training is inadequate; that it takes a rich background, not only in the basic sciences of anatomy, physiology, physiology of exercise, kinesiology and psychology but also a working knowledge of the cultural subjects as well, in order to more effectively appreciate the social and economic aspects of wholesome living, so important to the person to be rehabilitated or restored to his place in society. The corrective therapist is basically a teacher. He must see and treat the patient as a total personality still capable of adjusting to a new way of life that will be satisfying.

"Educational Standards for Rehabilitation Personnel," showing the need for ancillary therapists; what the overall problem is in the U. S.; the current curricula revisions that are taking place in Schools of Physical Education; the standards adopted by the

Civil Service Commission and the results of an Educational Survey conducted by a Committee of the Association, set some attainable goals for the standing committees presently working on these problems.

"New Horizons of Corrective Therapy," was the topic of the afternoon session of the third day and left no doubt in the minds of the delegates that the field of corrective therapy is not confined to the medical division of the Veterans Administration, but that many programs of developmental or corrective physical education activities are expanding and extending to State Rehabilitation Agencies, Community Ambulation Clinics, for the public school child, the high school student, and the college and university student. Civilian hospitals are also establishing positions in corrective therapy. This is a much needed expansion. The number of disabled and handicapped has reached a staggering total of 80,000 with paraplegia, 100,000 with hemiplegia—to name but two of the disease entities that physical medicine and rehabilitation must deal with.

Of special significance to corrective therapy was the banquet sponsored by the Allis-Chalmers Company, of West Allis, Wisconsin. The speaker of the evening, representing The Mutual Life Insurance Company of St. Louis, Mo., dramatically painted a fascinating picture of the cooperative effort that is already being made by medicine, corrective therapy and industry in the planning of programs that are coordinated from the incidence of disease or injury to job acceptance and a return of the patient to his rightful place in the community life from which he was so suddenly removed.

The panel discussion on, "Rehabilitation of the Amputee" presented the role of the physiatrist in this problem; surgical procedures in amputation; post operative stump care and preparation for fitting the prosthesis and training in the use of prosthesis. Each speaker emphasized the importance of early acceptance of the team work of the surgeon, the therapist and the limb manufacturer as essential. Early initiation of activities to prevent a general deconditioning with the accompanying hip flexion contractures, a longer convalescence and a delayed discharge was stressed in the discussion that followed.

Orientation of the Blind; Daily Care Activities in Medical Rehabilitation; Employment of the Physically Handicapped were fitting topics to summarize the newly discovered horizons that appeared so frequently in the scientific sessions, each emphasizing the magnitude of the job to be done; the tools required to do it; the training needed; the dependence of each group of rehabilitation workers upon the other and the determination to keep these new horizons in focus will furnish stimuli throughout the year that is essential to progress.

Chapter Activities

THE ACTIVE CHAPTER: ASSET OR LIABILITY

One of the values of the active chapter is the opportunity it affords for professional stimulation on the local level. When enthusiastically supported by an interested membership, there is a profitable exchange of ideas. Frequent and informative contacts with the medical profession are possible. The solution of many local rehabilitation problems will result. The monthly clinical session enables an alert program committee to present speakers from the allied fields of rehabilitation, keeping the membership informed of any significant changes that have been found of value. New techniques are explained and old ones are justified by their continued use and efficiency. All these are values on the credit side of the ledger.

What are the liabilities? A look at the record of chapter activities shows too many. On January 1, 1952, the Association had twenty-one (21) organized chapters. Since that time four (4) new chapters have been formed. In each case the organization meeting was reported with great aplomb. Much was made, in the report of the meeting, of the many accomplishments that would take place. Too frequently accomplishments do not take place. Here is a bit of supporting evidence.

From the twenty-five (25) organized chapters, the editorial staff has received copies of but four (4) Chapter Newsletters, five (5) reports of meetings and activities. Not a single chapter has reported giving financial aid to any Mother and Dad of little Johnnie, who needs a pair of braces and a folding wheel chair to complete his rehabilitation. What an opportunity for a chapter project.

Is your chapter to be an Asset or Liability to the Association as we go into the ensuing year?

NEW ENGLAND CHAPTER ACTIVITIES FOR YEAR, MAY 1951—MAY 1952

This report was received by your editor and is being published in lieu of a regular chapter activities report. This report indicates that the New England Chapter has indeed been one of our most active and could well be emulated by other chapters of our Association. Your editor urges that all chapters submit material for publication in this column. There is no better media for distribution of information between these vital organizations within the National Association.

The New England Chapter was formed in May, 1951, and a constitution and by-laws was adopted in June, 1951. Officers elected were: President, Frank Deyoe, Jr.; Vice-President, Alfred B. Ellison;

Secretary-Treasurer, Harvey Williams. Advisory Board: H. Harrison Clarke, Educational Director; Fritz Friedland, M.D.; William Lanigan, M.D.; Donald Munro, M.D. and Jacob Rudd, M.D. Membership at the end of the year was thirty-one (31).

Clinical Sessions

During the year twelve (12) speakers were listed as having taken part in various meetings. Four (4) clinical demonstrations were conducted and four (4) films were shown.

Chapter Business

A newsletter is published by the chapter, containing both professional and personal news items, and is distributed nationally to various other interested persons and organizations as well as locally to each member.

A code of ethics has been written, revised, approved and adopted. It has been suggested that this code be used as a model for the code of our National Association.

An information bulletin has been printed and is available to new members and anyone requesting information about the chapter or the association.

Legislation was introduced before the committee on Public Health of the Massachusetts legislature in the form of House Bill No. 1873. Numerous briefs and outlines, pertaining to this bill, were printed and distributed by the chapter.

Professional Representation

One or more members of the chapter represented our organization at the following meetings: New England Society of Physical Medicine; Eastern District, A. A. H. P. E. R.; Eastern Section, American Congress of Physical Medicine; Bay State Society for Crippled Children and Adults; Four meetings of New York Chapter, A.P.M.R. and five (5) other meetings.

Chapter Participation in National Affairs

There were six (6) chapter members serving on national committees and four (4) members were on the 1952 Convention Program.

SOUTHEASTERN CHAPTER

At the National Convention in Milwaukee President Roy Hilliard called a meeting of all members present. Brief discussion was held concerning site for next chapter meeting and Tuskegee was chosen. The tentative date is for the first week in October. More definite information will be disseminated through the Chapter Newsletter.

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Book Reviews



CLINICAL APPLICATIONS OF RECREATIONAL THER-

APY By John Eisele Davis, M.A., Sc.D., Chief of Corrective Therapy, Veterans Administration, Washington, D.C., \$3.75, 126 pp., Charles C. Thomas, Springfield, Illinois, 1952.

This monograph discusses the concepts of recreation and its relationship to mental health. It sets forth some of the recent developments in medical science and the methods in which the use of physical exercise and activities play a most important, dynamic role in the treatment of mental patients.

There are chapters devoted to the general aims of recreational therapy and the specific therapeutic aims which point out to the therapist that if recreational therapy is to become an integral part of activity therapy in modern treatment, it must fit into the objectives of physical medicine rehabilitation which are to provide diagnostic techniques and appropriate specialized therapies.

A section is devoted to the prefrontal lobotomy patient, emphasizing that participation of these patients is childlike and imitative at first and that they require constant motivation from the therapist before later becoming more activated and the therapist succeeds in eventually reaching his goal and being rewarded for his work in the improvement of behavior and expression of these patients. The author states, "It is in working with this type of patient that we see what an important adjunct recreational therapy is to the psychotherapeutic regimen." Five pages of charts are included, illustrating the method of recording the observations and findings of prefrontal lobotomy patients as they progress from day to day in corrective physical rehabilitation activities.

There is a chapter dealing with the reevaluation of specific recreational methods and techniques for preventive as well as curative therapy, including improved health measures and medical care which have increased the average life span from 47 to 68 years during the last half-century.

Since spontaneous play activities provide an environment conducive to a revelation of patients' personality traits and an opportunity to observe any change in the patients' reactions to various situations, the author has presented an observational report for therapists. This check list type of report is designed to convey data of diagnostic, prognostic and treatment significance to the physician.

Another chapter stresses the full meaning of recreation stating, "Recreational therapy is more than just an art or science of activity, it involves the creative expression of the individual in relationship to his total way of living. It is through recreational therapy that we gain a better understanding of the individual patient, his problems, their meaning and how they can be improved or modified."

The author sets forth recreational therapy in its true form as the utilization of various play and exercise forms as an aid in medical treatment. He stressed the attitude of therapists as an important factor in the clinical application of recreational therapy. Although the therapist's actual training in physical education and psychologic techniques plays an important part in the performance of recreational therapy, it is his manner and personality that comes first because through them, he motivates cooperative, enthusiastic participation in the activity program.

JPS

PRESCRIPTION FOR MEDICAL WRITING, By Edwin P.

Jordan, M.D., and Willard C. Sheppard, \$2.50 pp., 112, 26 figures, W. B. Saunders Co., Phila., Pa., 1952.

This book serves as a practical guide for those individuals who desire to prepare articles for publication. It attempts to help the writer say what he means and to avoid or eliminate some of the common faults which may prevent the finished product from doing justice to the work on which it is based.

A unique treatise of scientific and medical writing with a lucid explanation of case reports, footnotes, protocols, statistics and illustration. This book is recommended as practical reading and should be very informative to writers in the medical field.

A MANUAL FOR PSYCHIATRIC CASE STUDY, By Karl A.

Menninger, M.D., Grune & Stratton, New York, 1952.

This excellent book undoubtedly will gain wide use by those in psychiatric training. Menninger and his co-workers have done an excellent job supplying a "blueprint for a standard procedure of studying psychiatric patients, recording and organizing clinical data in a purposeful way, and presenting the conclusions and recommendations to which these data have led." For adjunctive therapists this manual will give an understandable review of how psychiatrists study patients and what they look for.

How to go about approaching the psychiatric patient is a difficult, stressful challenge to the beginner. The introductory chapter contains a wealth of understanding, explanation and practical suggestions that will help the psychiatric student approach his patients.

The first section of the manual deals with the collection and organization of case material. It points out that there is a fundamental difference between the medical history and the psychiatric history, a difference not easily taught and not readily grasped. It is not enough to record events and symptoms completely and accurately; far more important are the psychologic reactions to these events, the meaning of these events and symptoms to the patient. The psychiatric examiner is searching for these clues to the characteristic patterns of behavior, relationships, and methods of handling stress and strain.

A good outline for recording data is presented. There is a valuable section on how to handle highly confidential information. Variations in history taking and their indications are reviewed. Under the physical examination of the psychiatric patient, Dr. Menninger delves extensively and interestingly into the psychologic implications with many practical suggestions.

The section on the psychological examination is comprehensive and well-written. It is evident that psychobiologic and psychoanalytic concepts have been combined in a well-organized working outline of examination of psychic functioning. The descriptive list of various levels (or orders) of reactions to disintegrative threat are of particular interest.

The most critical tasks for the psychiatric examiner are the diagnostic synthesis and the selection of appropriate and effective treatment. After the relation between past life events and the present total picture is established; after one has indicated how the symptoms are related to the personality structure and environmental situation, there follows the job of deciding how and when the many different therapies are to be utilized.

The section on "Prescription of a Therapeutic Program" contains a complete outline of the various modalities, including milieu and attitude therapy for which the Topeka teaching centers have become renowned.

The chapter on the recording of treatment, developments and complications is of particular interest to the ward physician of the large mental hospital.

There is a chapter on the re-referral of a patient to the referring physician, a rarely discussed subject with many problems and implications. Much sound advice and good explanation is given concerning the delicacies and subtleties involved in the referring physician-psychiatrist relationship. The author also discusses how the psychiatrist can help the referring physician to do psychotherapy with his patient.

There is a comprehensive section containing general rules and helpful hints on how to write psychiatric reports and papers, followed by a number of illustrative case reports.

The appendix contains the A.P.A. nomenclature and the standard V.A. nomenclature of mental illnesses, a list of personality or "character" types, an outline of adjunctive therapy modalities, and a discussion of commitment laws and procedure.

For the psychiatric resident, ward physician and therapist interested in a comprehensive guide to the systematic study of psychiatric patients, this volume is a notable and forward-looking contribution.

James Weishaus, M.D.

HAVE YOU
RENEWED
FOR '52

News and Comments

Editor's note: In the July-August issue a news item was published concerning the Arnold width control for wheelchairs. Included in this news item was the statement, taken from a Keefe & Keefe advertising circular, that they were sole manufacturer and distributor. We are informed by Mr. Arnold Lerman, the inventor of this control, that Arnold Devices, Inc., has sole distributorship.

MILWAUKEE'S HOSPITALITY UNEXCELLED AS A CONVENTION CITY

For those of us who attended the recent national convention in Milwaukee, the opinion was unanimous that it was the greatest and most successful meeting in the history of the association.

Aside from the program of the clinical sessions, which was comparable to any other held this year, the social activity in the evening was the best and most entertaining ever offered at one of our conventions. George Reichle, the convention chairman, and the "C.T." staff at the Wood V. A. Center deserve a rising vote of thanks from the entire membership for the Herculean job they have done. The good citizens of Milwaukee outdid themselves in showing their hospitality to the "C.T." conventionaires.

The Allis-Chalmers Company of West Allis, Wisconsin, sponsored the convention banquet at the Crystal Ballroom of the Hotel Schroeder. It was attended by 650 members and guests and was a huge success. The Allen Bradley Company of Milwaukee entertained us as their guests at a dinner party and an excellent dramatics program on the first evening of the convention. The trips to the Blatz, Schlitz, and Miller High Life breweries were entertaining and educational.

Yes, Milwaukee in our opinion has no peer as a convention city. Even before we departed the question was on many lips, "When will we be coming here again?"

CONVENTION PROPOSALS, RECOMMENDATIONS AND ELECTIONS

At the Sixth Annual Convention of The Association for Physical and Mental Rehabilitation held in Milwaukee, Wisconsin, several progressive legislative actions and recommendations were presented to all members.

One of the important reports was that of the Liaison Committee. A national survey was conducted in order to determine the feasibility of an amalgamation with other therapies in the field of rehabili-

tation. The doctors contacted, voiced the opinion that the time is near when all therapies connected with rehabilitation work must develop and procure a rehabilitation team concept. In other words, to develop the full meaning of the concept, all therapies must work together as a team for the best patient results. It was expressed that Corrective Therapy would not lose its identity by such a merger, but would rather result in a stronger organization.

The Representative Assembly adopted a resolution favoring a merger and that the President, Tom Fleming be given the power to appoint representatives to a joint committee to develop the proposed organizational structure of the merger. The resolution also stipulated that the committee must report to the Association and all of its members and that no final official action be taken by the committee itself.

Another important committee report was given by Harold Robinson, Chairman of the State and Area Chapter Committee. His committee made a number of proposals that would make all chapters stronger and more workable units. These proposals were:

- a. Chapters should be legalized by a constitutional amendment.
- b. A constitution should be set up to apply to all chapters.
- c. Charters should be given to all recognized chapters.
- d. The final and most important is that Area Chapters should be well defined geographically so that they are stronger working units.

A constitutional amendment was voted favorably to legalize chapters. The new Chapters Committee, as set up by our President, will try to work out, in the near future, the above proposals.

A final and most important business of the Representative Assembly meeting was the election of our President-Elect. Only two men were nominated. One was Harold Robinson, VA Hospital, Roanoke, Virginia, and the other was Robert Shelton, Professor and Corrective Therapist of the University of Illinois.

Mr. Robinson, a great worker and a very capable individual won the election and is our President-Elect for 1953.

On Wednesday night, July 9th, the General Assembly meeting was held. The election of the remaining national officers was the major issue. Proxy votes were introduced by one of the members but the Executive Board ruled them illegal and at a special Area Representative Meeting a constitutional amendment was passed prohibiting proxy votes from being used in a General Assembly Meeting.

Stanley Wertz, Memphis, Tennessee, our acting Secretary for '51-'52 and Lou Montovano, our Treasurer, were unanimously re-elected for '52-'53. The

three Vice-Presidents elected were: Robert Sheldon, University of Illinois; Frank Deyoe, Boston, Massachusetts; and Edward Friedman, Albany, New York. Our Director of Publications will remain with Everett "Pop" Sanders.

Special commendation goes to Mr. Reichle, Mr. Root and all of the Corrective Therapists at Wood Hospital, Milwaukee, Wisconsin, for the tremendous job of putting over the Convention. It will long be remembered as one of the finest Conventions.

POLICY COMMITTEES IN SESSION AT CONGRESS MEETING



Seated, reading from left to right: Dr. Jacob Meislin, Dr. W. O. Selle, Dr. Otto Eissert, Mr. Leo Berner, Dr. Arthur Abramson*, Mr. Tom Fleming, Dr. William Bierman*, Mr. Les Root, Mr. Edward Friedman, Dr. Fritz Friedland, and Mr. Frank Deyoe.

Standing, from left to right, Mr. Chris Kopf, Mr. Arthur Tauber, Dr. John E. Davis*, Dr. Everill Fowls*, Dr. A. B. C. Knudsen*, Dr. John H. Aldes*, Dr. Howard Rusk*, and Mr. Lou Montovano.

Above members of the Advisory Board (indicated by asterisk) met with officers of our Association at the Hotel Roosevelt, New York City, on Monday, August 25th, 1952 to discuss important matters pertaining to the professional progress of exercise therapy, more specifically referred to as Corrective Therapy in The Veterans Administration, the Armed Forces, State and Civilian Hospitals. Specific topics on the agenda included matters pertaining to the present status of negotiations relating to a registry, standardization and improvement of educational courses and programs, editorial policy and liaison with other disciplines and professional associations. Our Association is deeply appreciative of the fine spirit of interest shown by the members of the Advisory Board and others invited to take part in the discussions. The mature counsel and advice of these leaders in the various areas of medical specialization is the basis for the guidance of our Association in its continued ethical and professional development.

NEWS FROM GERMANY

Les Daniels, 1st Lt. 20th Station Hospital A. P. O. c/o Postmaster New York, writes and informs us that he has been stationed at a Convalescent Center at Garmisch in South Germany. The unit he was with received convalescing patients from hospital units all over the European theater. The Center was divided into three companies, of about a hundred patients in each, all of whom were ambulatory. Of the three companies, A-Orthopedic, B-Medical and C-Surgical, he was commander of the Orthopedic Company which consisted mostly of patients with lower leg casts and knee injuries. He was responsible for the organization and administration of a program of therapeutic physical activity for this group. He clarifies the word "activity" by saying that the program consisted of drills, games, sports and military education as well as definitive physical reconditioning. The definitive treatment was carried on in a remedial gym which had equipment such as a shoulder wheel, postural mirror, chest and floor pulley weights, bar bells, dumbbells, improvised De-Lorme boots, wrist exercisers, inversion tread board, ankle exerciser, stationary bicycles, rowing machines and stall bars.

Each company was divided into four sections, A, B, C, and D. D is the lowest exercise tolerance group and the section into which most patients go when they are admitted to the Center. They all stay for a period of three to four weeks and are admitted to the Center with the assumption that they can be in good condition after that amount of time in the program. Within the period of three weeks they are graduated from section D to C to B to A. The section A men perform such things as rifle drill, six hour hikes, and the "Army Dozen" calisthenics.

In regard to calisthenics, the men who are trained in Physical Reconditioning in the Army (at Fort Sam Houston), learn three series of exercises, all of which may be adapted for specific disabilities. They are called the Ambulant, Convalescent and Heavy Exercises.

The entire program is under medical supervision. At the initial interview, the doctor prescribes the program of activity and suggests precautions and contraindications as well as augmentations. The Company commander then makes out a progress chart for the patient outlining in more detail, the exercises and activities to be given. The progress chart is given to the physical reconditioning technician who carries out the program.

The program is what may be called a total-push program having continuous activity from 8:00 A.M. to 4:45 P.M. However, it is not always physical activity. Such things as supervised library study, sports films, lectures on posture and deconditioning and the

study of German are interspersed in the program to give periods of physical rest.

The patients are allowed three pass nights a week and must return to the post at 11:30 P.M. Clean, healthy living and the worthwhileness of participation in sports is continually emphasized to these patients.

Les states that he read the article "General Principles of Exercise Therapy," by Dr. Ebel and Dr. Abramson, to his Physical Reconditioning men and all were very interested in it. It prompted many questions and they all learned something about the administration of therapeutic exercises.

Les' family was to be with him in July and he says "that will be a happy day for me—I haven't seen my daughter since she was three weeks old—she's now six months."

ASSOCIATION REPRESENTED AT WHITE HOUSE CONFERENCE ON EMPLOYMENT OF THE PHYSICALLY HANDICAPPED

The entire membership will be happy to know that Mr. George H. Reichle, our worthy and efficient convention chairman, has been invited to attend a meeting of "The President's Committee on Employment of the Physically Handicapped," to be held at the Departmental Auditorium, Washington, D. C., September 4, 1952. Congratulations are again in order for we all know the enthusiasm, sound judgment and industry that will be contributed by George in any assignment he receives.

UNIQUE INSTITUTION OF PROSTHETIC AND REHABILITATION SERVICE

At Fort Lauderdale, Florida, Earle H. Daniel has recently opened a unique rehabilitation center. It is called the Daniel Institute, Inc., for Prosthetic Service and Rehabilitation and is a non-profit organization to aid amputees, paralytics and polio patients.

The Institute offers a comprehensive rehabilitation service, including physical therapy, prosthetic services, vocational counselling guidance, and special consultant services. The treatment is extensive, in most cases utilizing all services designed to treat the whole person. Cases are accepted on a full-day or half-day basis. All treatment is on an out-patient basis. The service includes:

- 1—Treatment to relieve pain, strengthen muscles, increase range of motion, reduce contractures, and other standard physical medicine procedures.
- 2—Check fitting of artificial arms, legs, and braces, training in safe and skillful use of all types of prosthesis, including braces, crutches, and other assistive apparatus.
- 3—Special exercise procedures derived from individually planned craft and shop activities.

4—Functional training in self-care for severely involved patients, designed to make the individual as independent as possible.

5—Vocational guidance and selective job placement to be given to the more severely handicapped or those who cannot return to former positions.

Clinics are held periodically in which a team, consisting of a surgeon, attending physician, therapist, and prosthetic specialist, evaluates the problems of each individual case to assure the best possible results for the patient.

The Institute is operated by a group of prominent persons—Earl H. Daniel, Director; Harriett Gillette, M.D., Chief Consultant, Physical Medicine; George T. F. Rahilly, M.D., Chief Orthopedic Consultant; Otto Strobino, Physical Therapist; Leonard Smith, Prosthetic Specialist; Helen H. Daniel, Social Service.

In conjunction with the treatment phase of the disabled, Mr. Daniels offers a three week special advanced course in prosthetic service for doctors, therapists, nurses, insurance adjusters, and rehabilitation counsellors. All phases of the prosthetic service are taught—instruction related to stump care and preparation for use of the prosthesis; how to measure, cast, and construct the prosthesis, and the methods used in the proper adjustment of an artificial limb when required.



A cowboy in his youth, Daniel lost his leg when it was shattered by a rustler's soft-nosed bullet. With a stock knife, he amputated his leg, then rode 32 miles on horseback for medical aid. This misfortune never handicapped him and he has told more than 100,000 who have come to him for advice that the loss of a limb "need not prevent anyone from earning a living, being happy and serving his fellow man."

Mr. Daniel is a former prosthetics adviser to several hospitals and to the Veterans Administration. For several years he was Director of the Prosthetic Service at the Bellevue Rehabilitation Center, New York City, New York.

We welcome Mr. Daniel as a fellow member of the Association of Physical and Mental Rehabilitation.

MEETINGS OF PROFESSIONAL INTEREST IN 1952

- Sept. 18-19 Oregon Society for Crippled Children and Adults, Portland, Oregon. Mr. Howard Feast, 1135 S. W. Yamhill, Portland, Oregon, Chairman.
- Sept. 25-27 Texas Society for Crippled Children, Inc., Mr. Martin M. Ricker, 3703 Worth St., Dallas, Texas, Chairman.
- Oct. 17-18 Minnesota Society for Crippled Children and Adults, Minneapolis, Minnesota.
- Oct. 21-25 National Rehabilitation Association, Inc., Louisville, Kentucky. Mr. E. B. Whitten, 1025 Vermont Ave. N. W., Washington, D. C., Chairman.
- Oct. 26-29 National Society for Crippled Children and Adults, Fairmont Hotel, San Francisco, California, Mr. Lawrence J. Linck, Executive Director, 11 South La Salle St., Chicago 3, Illinois.
- Oct. 27-28 Society for Crippled Children and Disabled Adults, Nashville, Tennessee. Mr. W. V. Howard, 216 Vendome, Nashville 3, Tennessee, Chairman.
- Oct. 30-31 The National Association for Music Therapy, Hotel Kansan, Topeka Kansas. No. 1
- October Nebraska Society for Crippled Children, Omaha, Nebraska. S. O. Perkins, 1504 Dodge St., Omaha 2, Nebraska, Chairman.
- November American Vocational Association, Boston, Massachusetts. Mr. M. D. Mobley, 1010 Vermont Ave. N. W., Washington, D. C., Chairman.
- November American Speech and Hearing Association, Detroit, Michigan. G. A. Kopp, Wayne University, Detroit 1, Michigan, Chairman.
- Dec. 2 Oklahoma Society for Crippled Children, Oklahoma City, Oklahoma.

WANTED AT ONCE

THE MARCH and MAY ISSUES OF 1947. These two early issues of the JOURNAL are needed to complete the five volumes of the journal for binding.

Frequent calls from Libraries for the early issues of 1947, 1948, 1949 are received. These issues must be gathering dust on your book shelves.

We hope all who read this notice will recognize the importance of reminding others to "GIVE" for FIFTY CENTS EACH, their copy of these badly needed issues.

APPLICATION FOR ACTIVE MEMBERSHIP

Association for Physical and Mental Rehabilitation
(Mail to Stanley H. Wertz, 3524 Hester Avenue, Memphis, Tennessee)

Name _____ Proposed by _____
Address _____ Date _____
Position _____ Location _____
Education _____ Major _____ Degrees _____
(college) (A major in Physical Education is required)
Training and Experience in Physical Rehabilitation _____
(One year under the direct supervision of a Medical Doctor is required)

Signature of Applicant _____

APPLICATION FOR ASSOCIATE MEMBERSHIP

Association for Physical and Mental Rehabilitation
(Mail to Stanley H. Wertz, 3524 Hester Avenue, Memphis, Tennessee)

Name _____ Date _____
Address _____
Field of Interest _____
Proposed by _____ Address _____
Signature of Applicant _____

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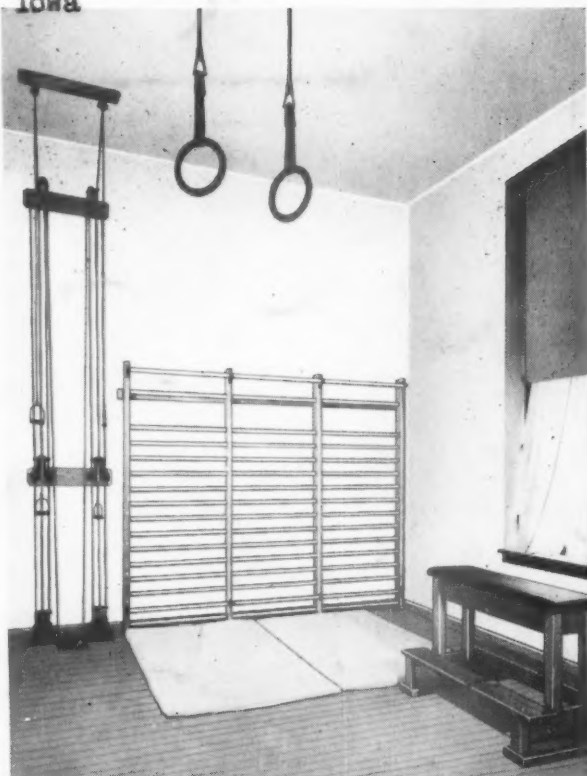
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